HEALTH Performance Indicators

A Report to New Brunswickers on Comparable Health and Health System Indicators

September 2002

New Nouveau
Brunswick
CANADA
Health and Wellness

This report is based on recommendations for comparable performance indicator reporting outlined in the First Minister's Communiqué on Health of September 11, 2000 and the Plan for Federal/Provincial Territorial Reporting on 14 Indicators Areas accepted by the Conference of Deputy Ministers of Health in June 2002, and subsequently modified by authorization of the Chair of the Performance Indicator Reporting Committee up to and including August 30, 2002.

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FOREWORD

In September 2000, First Ministers issued a *Communiqué on Health* in which they agreed to provide clear accountability reporting to Canadians on the health of their citizens and the performance of their health care systems. First Ministers directed Ministers of Health to collaborate on the development of a jointly agreed upon framework of comparable indicators addressing health status, health outcomes and quality of service. First Ministers further directed Ministers of Health to begin reporting on these comparable indicators in September 2002.

To ensure the accuracy and comparability of reported results the *Communiqué on Health* also called on each Government to provide "appropriate, independent, third party verification of their reported results".

This report fulfills the Province of New Brunswick's commitment to begin reporting on comparable health and health system performance indicators in September 2002. It reports on a wide variety of jointly agreed upon, comparable health and health system performance indicators and has been subject to a number of specified auditing procedures carried out by the Auditor General of New Brunswick, at the request of the Minister of Finance (See Auditor General's Report on the Results of Applying Specified Auditing Procedures).

Management's Responsibility

The New Brunswick Department of Health and Wellness is responsible for the presentation of the information contained in the HEALTH Performance Indicators report. This responsibility includes the analysis, presentation and interpretation of the data within the parameters provided by the Performance Indicators Reporting Committee and approved by the Conference of Deputy Ministers of Health and / or the Chair of the Performance Indicator Reporting Committee.

In preparing the report, the Deputy Minister and management of the Department of Health and Wellness have relied on information provided by external organizations, including Statistics Canada, the Canadian Institute for Health Information (CIHI), and Health Canada. While we have relied on this information, we are also aware that health indicators data needs to be improved. This report is consistent with all significant requirements for reporting on comparable health indicators, as agreed by Deputy Ministers of Health, and significant departures from the agreement are noted in the report.

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INTRODUCTION

The 2002 HEALTH Performance Indicators report represents a first attempt at providing comprehensive, comparable reporting to the people of New Brunswick on a wide range of measures that collectively reflect the health status of the population and the performance of the publicly funded health care system. Reporting on population health status and health system performance is not a new activity for the New Brunswick Department of Health and Wellness (DHW). The DHW has previously reported on population health status in the Health Status of New Brunswickers reports, and has used a variety of methods, including the Departments Annual Report, to report on system performance indicators.

The HEALTH Performance Indicators report is unique in that it is part of a nation-wide effort to provide citizens with health status and health system performance information that is comparable across all Federal, Provincial and Territorial (FPT) jurisdictions. Over the past two years, the Department of Health and Wellness has collaborated with all FPT jurisdictions to develop a common process for reporting on a wide variety of measures related to 14 different aspects of health status, health outcomes and quality of service. Each FPT jurisdiction has agreed to analyze and present their results in a format that is meaningful to their public and that is comparable across jurisdictions. To enhance access to this information and encourage inter-jurisdictional comparisons each FPT jurisdiction will release a document similar to New Brunswick's HEALTH Performance Indicators report in September 2002.

Purpose

The First Minister's *Communiqué on Health* (September, 2000) identified several benefits that can be realized through comparable FPT reporting. These include:

- Improved accountability to the public
- Improved public understanding of health system performance
- Improved decision making
- Promotion of best practices, and
- Enhanced performance of the health system

Reporting on comparable indicators by FPT jurisdictions supports the achievement of these expected benefits by improving the ability of health system stakeholders and the public to compare and assess results. Comparative assessment of health status and health system performance information will help health system managers make better decisions about the development and delivery of health services. In addition, comparable reporting will better inform public policy discussions regarding the role and limitations of the formal health care system in promoting optimal health and well-being in New Brunswick.

What is in the Report

The following table lists 67 separate indicators that have been identified for inclusion in FPT jurisdictions' comparable indicators reports. It has been recognized from the outset that not all jurisdictions would be able to report on each of the 67 indicators in the fall of 2002. New Brunswick's HEALTH Performance Indicators report includes information on all indicators except:

- Number 37: Prevalence of diabetes. The system used to collect the data for this indicator has not been fully implemented in New Brunswick. Therefore comparable information for New Brunswick was not available for the 2002 report.

- Numbers 39, 40, 41 and 42: Wait times for hip replacement surgery, knee replacement surgery, radiation therapy for breast cancer and radiation therapy for prostate cancer. New Brunswick is in the early stages of developing systems for tracing wait times for these procedures. Therefore, comparable information for New Brunswick was not available for the 2002 report.

- Numbers 43, 44, and 45: Reported waiting times for specialist physician visits, diagnostic services and surgery. The data source for these indicators was a special survey conducted by Statistics Canada. Due to methodological concerns, New Brunswick and nine of the other FPT jurisdictions chose not to participate in the survey. Only those jurisdictions which participated in the survey are required to report on these indicators.

- Numbers 52, 53, 54 and 55: Access to 24/7 first contact health services: The data source for these indicators was the special Statistics Canada survey noted above. Since New Brunswick did not participate in the survey, it is not required to report on these indicators. However, New Brunswick has reported information on its Tele-Care triage service under the heading of "Access to 24/7 first contact health services".

List of 67 Comparable Indicators			
#	Indicator Name	#	Indicator Name
1	Life expectancy	34	Invasive meningococcal disease incidence rate
2	Disability-free life expectancy	35	Measles incidence rate
3	Infant mortality	36	Haemophilus influenzae b (invasive) (Hib) disease incidence rate
4	Low birth weight	37	Prevalence of diabetes
5	Self-reported health	38	Wait times for cardiac surgery
6	Mortality rate for lung cancer	39	Wait times for hip replacement surgery
7	Mortality rate for prostate cancer	40	Wait times for knee replacement surgery
8	Mortality rate for breast cancer	41	Wait times for radiation therapy for breast cancer – weeks to clear current wait list; median wait
9	Mortality rate for colorectal cancer	42	Wait times for radiation therapy for prostate cancer – weeks to clear current wait list; median wait
10	Mortality rate for AMI	43	Reported wait times for specialist physician visits – median wait; distribution of wait times
11	Mortality rate for stroke	44	Reported wait times for diagnostic services – median wait; distribution of wait times
12	Five-year relative survival rate for lung cancer	45	Reported wait times for surgery - median wait; distribution of wait times
13	Five-year relative survival rate for prostate cancer	46	Patient satisfaction – overall health care services
14	Five-year relative survival rate for breast cancer	47	Patient satisfaction – hospital care
15	Five-year relative survival rate for colorectal cancer	48	Patient satisfaction – doctor and other physician care
16	30-day acute myocardial infarction mortality rate	49	Patient satisfaction – community-based health care
17	30-day stroke mortality rate	50	Hospital re-admission - acute myocardial infarction
18	365-day net survival rate for acute myocardial infarction	51	Hospital re-admission - pneumonia
19	180- day net survival rate for stroke	52	Access to 24/7first contact health services: difficulty obtaining routine or on-going health services – during regular daytime hours; during evenings or weekends
20	Total hip replacement rate	53	Access to 24/7first contact health services: difficulty obtaining health information or advice – during regular daytime hours; during evenings or weekends; at night
21	Total knee replacement rate	54	Access to 24/7first contact health services: difficulty obtaining immediate care – during regular daytime hours; during evenings or weekends; at night
22	Incidence rate for lung cancer	55	Access to 24/7first contact health services – percent having a regular family doctor
23	Incidence rate for prostate cancer	56	Home and community care services – home care admissions; home care admissions, age 75+
24	Incidence rate for breast cancer	57	Home and community care services – utilization of home care services
25	Incidence rate for colorectal cancer	58	Home and community care services – ambulatory care sensitive conditions
26	Potential years of life lost due to lung cancer	59	Public health surveillance and protection – tuberculosis
27	Potential years of life lost due to prostate cancer	60	Public health surveillance and protection – HIV
28	Potential years of life lost due to breast cancer	61	Public health surveillance and protection – verotoxogenic *E. coli*
29	Potential years of life lost due to colorectal cancer	62	Public health surveillance and protection – chlamydia
30	Potential years of life lost due to AMI	63	Public health surveillance and protection – exposure to environmental tobacco smoke
31	Potential years of life lost due to stroke	64	Health promotion and disease prevention – smoking (percent current teenage smokers; percent daily teenage smokers)
32	Potential years of life lost due to suicide	65	Health promotion and disease prevention – physical activity
33	Potential years of life lost due to unintentional injury	66	Health promotion and disease prevention – body weight
		67	Health promotion and disease prevention – immunization for influenza for 65+

What is not in the Report

New Brunswick's HEALTH Performance Indicators report is designed to inform the citizens of New Brunswick about their health status and the performance of their health care system. This report does not include measurement results from other Provincial or Territorial jurisdictions. This report includes only New Brunswick's measurement results compared to those for Canada as a whole (where Canadian average results are available). Readers who are interested in reviewing measurement results for other jurisdictions may do so by contacting the jurisdictions directly or by visiting the Statistics Canada web site.

A second category of information that will not be found in the HEALTH Performance Indicators report is extensive discussion or analysis of the reasons for trends, differences or changes in New Brunswick's measurement results. The goal of this report is to present the factual results of the performance measures. An in depth discussion of why a particular result was obtained or the factors underlying observed trends and differences would require extensive analysis that is beyond the scope of this report.

A final category of information that is not included in the HEALTH Performance Indicators report is background information on the nature of the health services associated with different performance measures, or any discussion of actions or initiatives that have been taken to address observed health status or health service delivery issues. As previously noted, the purpose of this report is to present factual measurement results. Information on the organization of health care services and on recent initiatives to improve health status and health system performance in New Brunswick is available in other Government and Department of Health and Wellness documents.

Future Reporting Plans

Current plans call for the production of a HEALTH Performance Indicators report once every two years, in coordination with comparable reporting exercises in other FPT jurisdictions. For the next round of reporting, New Brunswick will focus on improving its capacity to report on all of the jointly agreed upon comparable indicators. To this end, emphasis will be placed on fully implementing a provincial diabetes surveillance system and on improving capacity to measure waiting times for key diagnostic and treatment services including hip and knee replacement and radiation therapy.

In addition to focusing on internal improvements, New Brunswick will continue to participate in the further development and refinement of a comprehensive health and health system performance measurement framework. Of particular interest to New Brunswick is the development of methods for utilizing administrative data, rather than self-report survey data, to measure important access to care indicators.

103-00475/

ABOUT THIS REPORT

Organization

The HEALTH Performance Indicators results are organized under three major headings, with 14 sub-categories as follows:

I Health Status

1. Life Expectancy
2. Infant Mortality
3. Low Birth Weight
4. Self-reported Health

II Health Outcomes

5. Changes in Life Expectancy
6. Improved Quality of Life
7. Reduced Burden of Disease, Illness and Injury

III Quality of Service

8. Waiting Times for Key Diagnostic and Treatment Services
9. Patient Satisfaction
10. Hospital Re-admission for Selected Conditions
11. Access to 24/7 First Contact Health Services
12. Home and Community Care Services
13. Public Health Surveillance and Protection
14. Health Promotion and Disease Prevention

Each of the 14 subsections contains one or more measures designed to reflect performance in that particular domain. The data for each measure are presented in a table accompanied by corresponding graphs, technical notes and a brief description and analysis of the results. It should be noted that due to space limitations, graphs are not provided for all aspects of the data contained in the tables.

Data sources

The principle sources of the data presented in the HEALTH Performance Indicators report are Statistics Canada and the Canadian Institute for Health Information (CIHI). While much of the data originated from provincial sources such as hospital records, vital statistics agencies and cancer registries, Statistics Canada and CIHI were responsible for compiling these data into the standardized performance indicator results that have been used by all FPT jurisdictions in the preparation of their comparable indicators reports.

The only indicator results that were independently compiled by the New Brunswick Department of Health and Wellness were the results for the Cardiac Surgery Wait Time and Access to 24/7 first contact health services (Tele-Care) measures.

A note on Variability and Statistical Significance

Variability is a statistical term that describes the level of precision obtained when measuring various phenomena, including health-related events or conditions. Each of the performance indicator results in the HEALTH Performance Indicators report has a certain level of variability associated with it. This variability sometimes makes it difficult to judge whether differences between two measures are 'true' differences or only differences that result from random variability.

The following example illustrates this problem: If Person A goes into a department store and tries out several different weight scales they might find that one scale gives them a weight as low as 155 pounds, another gives them a weight as high as 160 pounds and that their average weight from all of the machines is 158 pounds. The difference in the weights given by the various machines (i.e., 5 pounds) represents the variability associated with the measurement of Person A's weight. We may be 95% certain that Person A's 'true' weight is somewhere between 155 and 160 pounds but we cannot be absolutely certain that their exact or 'true' weight is 158 pounds.

If Person B tries out the same scales and finds that their weight ranges from a low of 150 pounds to a high of 158 pounds, with an average weight of 156 pounds, we would probably say that Person A is 2 pounds heavier than Person B. However, because of the variability associated with the weight measurements, we cannot be totally certain that there is a 'true' difference between Person A's and Person B's weight. In technical terms one would say that the difference between Person A's and Person B's weight is not 'statistically significant'.

Now suppose Person C tries out the same scales and finds that their weight measures range from 200 to 210 pounds, with an average of 205 pounds. Because there is no overlap in the weight ranges of Person A and Person C, we can be certain that Person C does in fact weigh more than person A. In technical terms, one would say that the difference in weight between Person C and Person A is statistically significant.

The foregoing example demonstrates that in order to understand if an observed difference between two measurement results is actually a 'true' or statistically significant difference one must know how much variability is associated with the measurement process. Each of the indicator measurements reported on in the HEALTH Performance Indicators report has some variability associated with it and different measurement processes produce different levels of variability. For example, those measures associated with surveys typically have higher levels of variability than measures associated with vital statistics or hospital records.

In the HEALTH Performance Indicators report no attempt has been made to identify which differences are statistically significant and which are not. Therefore readers are cautioned that when comments are made about various indicator results increasing or declining over time; about some results being higher or lower than others, this does not mean that any changes or differences observed are necessarily statistically significant changes or differences. Readers who are interested in determining if observed changes or differences are statistically significant are encouraged to visit the Statistics Canada or CIHI web sites to obtain the variability (i.e., confidence interval) information required to perform the necessary statistical calculations.

A Note on Interpreting the Results

In addition to exercising caution when interpreting the significance of observed changes over time or differences between jurisdictions on the various indicators, there are two other factors which readers should take into consideration when interpreting the HEALTH Performance Indicator results: Time frames and inter-correlation.

There are several cautions associated with time frames. First, it should be noted that the data for several of the indicators is relatively old, with some indicators based on data collected over five years ago. While the measurement results for these indicators remain valid and comparable, readers should keep in mind that they reflect the health status or health system performance situation as it stood several years ago - not necessarily as it is today.

A second caution associated with time frames is that there are several different measurement periods associated with related categories of indicators. For example, the time frame for results on the potential years of life lost due to prostate cancer runs from 1990 to 1999. The time frame for results on incidence rates for prostate cancer runs from 1990 to 1996, and the time frame for the five-year survival rate for prostate cancer is for 1997 only. Given these differences in the time frames, readers should be careful to ensure that when comparing performance on related indicators they are using the results from comparable or logically sequential time periods.

A third caution with respect to time frames concerns the numerous indicators for which data is available for only one time period. As readers will note when examining the results from indicators where a long time trend is available, there can be considerable year-to-year variability in results, particularly at the provincial level. Therefore, readers should be very conservative in their conclusions with respect to any indicators that have results from only one time period.

In addition to time frames, the other major factor that readers should take into consideration when examining the performance indicator results is the fact that many of the indicators are inter-correlated. For example, the breast cancer mortality and potential years of life lost due to breast cancer measures are highly correlated with breast cancer incidence and five-year breast cancer survival rate measures. Another type of inter-correlation is associated with the fact that health gains made in some areas may tend to have a negative effect on measurement results in other areas. For example, as life expectancy increases so too does the incidence of diseases associated with advanced age such as Alzheimer's disease, prostate cancer and stroke. Similarly, decreased mortality from diseases which tend to strike earlier in life, such as coronary heart disease may lead to increased mortality rates from diseases that become more prevalent later in life, such as cancer. Given these types of inter correlation, it is important to recognize

that the 67 indicators should not be considered on a purely individual basis. In many cases, several indicators merely reflect different aspects of a common underlying health issue.

AUDITOR GENERAL'S REPORT ON THE RESULTS OF APPLYING SPECIFIED AUDITING PROCEDURES

Minister of the Department of Health and Wellness

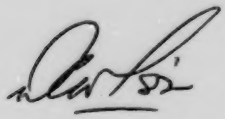
As requested by the Minister of Finance, under Section 11(1) of the Auditor General Act, I have performed the following procedures in connection with the New Brunswick report on HEALTH Performance Indicators dated September 30, 2002. These indicators are management's statement of the results achieved in the health indicator areas pursuant to the First Ministers' Meeting Communiqué on Health and in accordance with the reporting recommendations approved by the Conference of Deputy Ministers of Health (CDM) and further modified by subsequent revisions authorized by the Chair of the Performance Indicators Reporting Committee (PIRC). I have:

1. Verified that the reported information obtained from external sources, such as Statistics Canada or the Canadian Institute for Health Information, agreed with the stated sources.
2. Verified that reported information originating within the Department of Heath and Wellness agreed with the reports from the systems used to develop the information.
3. Tested the calculations that convert source information into reported indicator results.
4. Verified compliance with reporting requirements specified in the PIRC's "Plan for FPT Reporting on 14 Indicator Areas (the Plan)" as approved by the CDM in June, 2002 and further modified by subsequent revisions authorized by the Chair of PIRC up to, and including, August 30, 2002.

As a result of applying the above procedures, I found the following exceptions:

1. The indicator "Wait Times for Cardiac Surgery" does not fully comply with the Plan requirements as it excludes data for New Brunswick residents who have obtained surgery outside of New Brunswick. The Plan requires these wait times be included. Due to the nature of the process used by the Department to determine this indicator we were unable to perform the specified procedures required.
2. The indicators "Hospital Re-admissions for Acute Myocardial Infarction and Pneumonia" do not disclose all of the technical specifications for the indicators as noted in the Appendix of the Plan.
3. The indicator "Access to 24/7 First Contact Health Services" is not one of the indicators in the Plan and, as such, we have not performed any specified auditing procedures on the information presented.

These procedures do not constitute an audit of the health performance indicators and therefore I express no opinion on the New Brunswick report on *HEALTH Performance Indicators*. Further, these procedures would not necessarily reveal all material facts with respect to the health performance indicators.



Daryl C. Wilson, FCA
Auditor General

September 30, 2002

Office of the Auditor General
P.O. Box 758
Fredericton, New Brunswick E3B 5B4

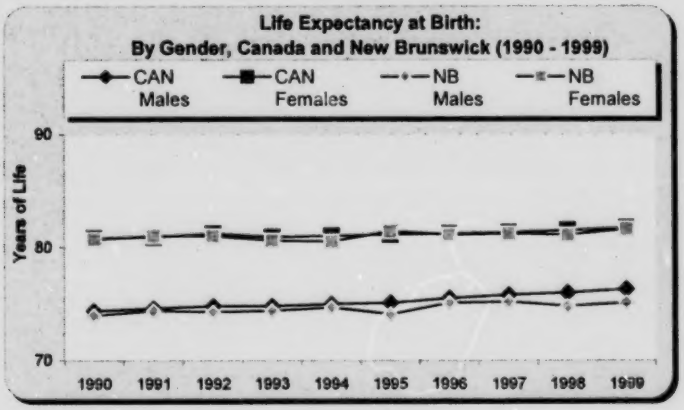
HEALTH STATUS

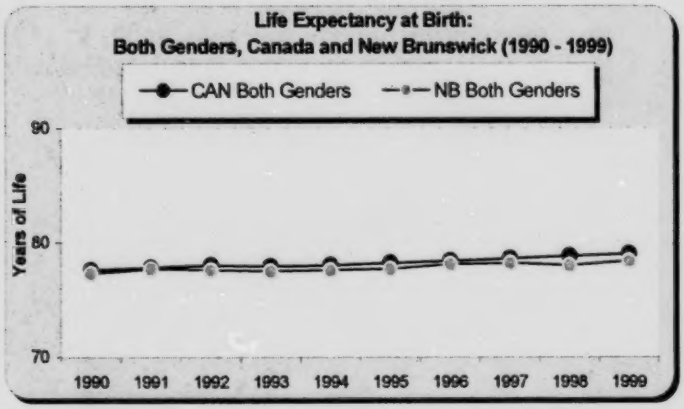
Indicators in this category are intended to reflect population health status. Population health refers to the overall or average health of a population and is typically measured in terms of the health status of individuals that comprise the population. It should be noted that population health measures are not direct measures of health system performance, because population health is influenced by many factors outside of the formal health care system. These factors, which are often referred to as population health 'determinants' include:

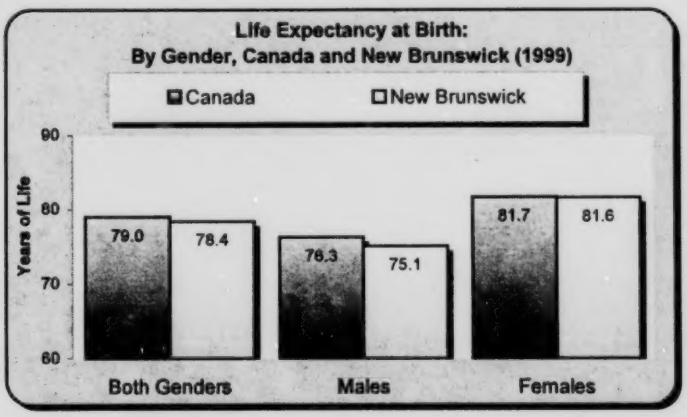
- the social, economic and physical environments,
- personal lifestyle choices/practices
- individual capacity and coping skills
- human biology
- early childhood development, and
- the quality and accessibility of health services

In addition to being the product of numerous determinants, population health status measures reflect only the typical or average health situation of population members. As a result, without additional analysis, population health measures may tend to obscure health disparities in certain segments of the population.

Life Expectancy







DESCRIPTION:

Life expectancy at birth is the number of years a person would be expected to live, starting from birth, on the basis of the mortality statistics for a given observation period, typically a calendar year. Life expectancy is a standardised statistical indicator that reflects the quantity rather than the quality of life.

ANALYSIS:

Life expectancy is a widely used indicator of the health of a population. In developed countries, life expectancy is related to gender, and socio-economic factors such as poverty and education. The highest life expectancies in the world in 1999 were in Japan, at 84.1 years for females and 77.3 years for males.

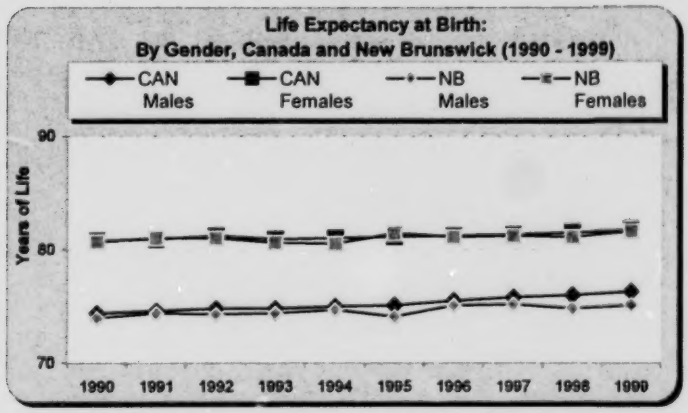
Between 1990 and 1999 life expectancy for New Brunswick males, increased by approximately 1.5% (from 74.0 to 75.1years). Over the same time period, life expectancy for New Brunswick females increased by approximately 1% (from 80.7 to 81.6 years).

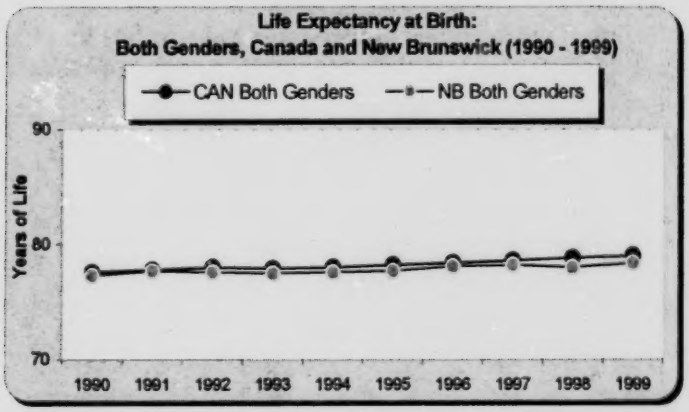
The gradual increase in life expectancy for both genders in New Brunswick is similar to the trend for Canada as a whole over the last decade.

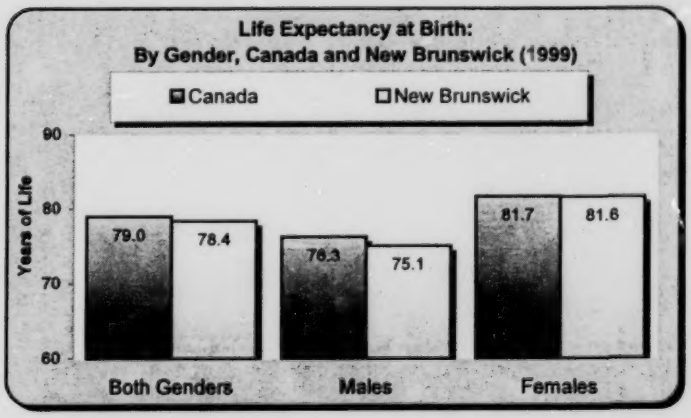
In 1999, the life expectancy of New Brunswick males was 1.2 years less than the Canadian average, while that of New Brunswick females was 0.1 years less than the comparable national average.

New Brunswickers' slightly lower than average life expectancy is attributable in part to higher than average mortality rates from cancer and coronary heart disease.

Life Expectancy







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New Brunswickers' slightly lower than average life expectancy is attributable in part to higher than average mortality rates from cancer and coronary heart disease.

Table 1.1 Life Expectancy

Life Expectancy at Birth:
By Gender, Canada and New Brunswick (1990 - 1999)
Years of Life

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	77.6	77.3	74.4	74.0	80.8	80.7
1991	77.8	77.7	74.6	74.4	80.9	81.0
1992	78.0	77.6	74.8	74.3	81.2	81.0
1993	77.9	77.5	74.8	74.4	80.9	80.6
1994	78.0	77.6	75.0	74.7	81.0	80.5
1995	78.2	77.7	75.1	74.1	81.1	81.4
1996	78.4	78.1	75.5	75.1	81.2	81.1
1997	78.6	78.2	75.8	75.2	81.3	81.2
1998	78.8	78.0	76.0	74.8	81.5	81.1
1999	79.0	78.4	76.3	75.1	81.7	81.6

Technical Specifications:

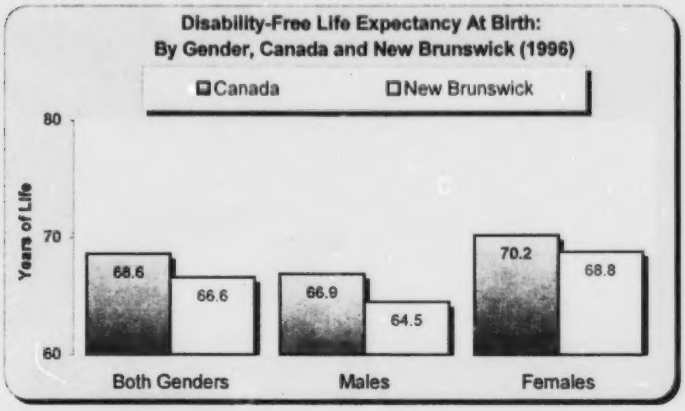
Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used for the life tables*

Source: *Statistics Canada, Vital Statistics, Birth and Death Databases and Demography Division (population estimates); ISQ*

Calculation: *Life expectancy is calculated using mortality rates with Greville's method for abridged life tables, using five-year age groupings of both population and mortality rate.*

References: *The impact of estimation method and population adjustment on Canadian life table estimates. Ng E, Gentleman JF in Health Reports. 1995; 7(3): 15-22.; Community Health Indicators – Definitions and Methods (Statistics Canada web site; Statistics Canada Catalogue 84-214-XPE; Statistical Report on the Health of Canadians, ACPH, 1999.*

Disability-Free Life Expectancy



DESCRIPTION:

Disability-free life expectancy at birth is the number of years an average individual would be expected to live free of moderate or severe disability, starting from birth, on the basis of the mortality statistics and disability prevalence patterns for a given observation period, typically a calendar year. Disability-free life expectancy is a complementary measure to the conventional life expectancy indicator in that it places greater emphasis on the quality rather than the quantity of life.

ANALYSIS:

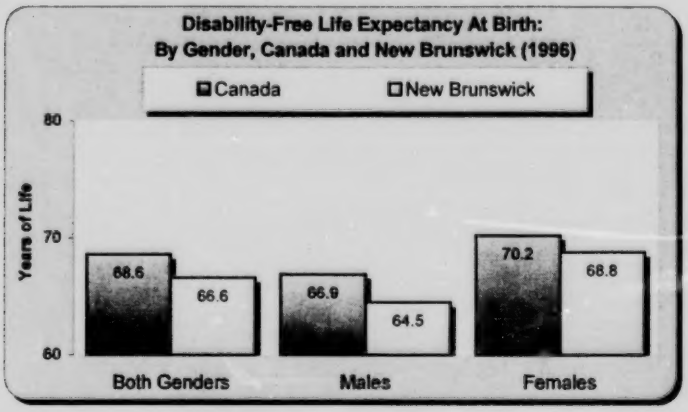
In 1996, Canadian males could expect to live an average of 66.9 years before developing a moderate or severe disability. The average Canadian female could expect to live 70.2 years or 3.3 years longer than the average Canadian male, before developing a moderate or severe disability.

In 1996, the disability-free life expectancy of New Brunswick males was 64.5 years whereas that of New Brunswick females was 4.3 years longer at 68.8 years.

The disability-free life expectancy of both New Brunswick males and females was below the national average in 1996. On average, New Brunswick males could expect to develop a moderate or severe disability 2.4 years sooner than the average Canadian male. Similarly, New Brunswick females could expect to develop a moderate or severe disability 1.4 years sooner than the average Canadian female.

As with the conventional measure of life expectancy, the lower than average disability-free life expectancy of New Brunswickers, is in part attributable to the effects of major diseases such as heart disease and cancer.

Disability-Free Life Expectancy



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ANALYSIS:

In 1996, Canadian males could expect to live an average of 66.9 years before developing a moderate or severe disability. The average Canadian female could expect to live 70.2 years or 3.3 years longer than the average Canadian male, before developing a moderate or severe disability.

In 1996, the disability-free life expectancy of New Brunswick males was 64.5 years whereas that of New Brunswick females was 4.3 years longer at 68.8 years.

The disability-free life expectancy of both New Brunswick males and females was below the national average in 1996. On average, New Brunswick males could expect to develop a moderate or severe disability 2.4 years sooner than the average Canadian male. Similarly, New Brunswick females could expect to develop a moderate or severe disability 1.4 years sooner than the average Canadian female.

As with the conventional measure of life expectancy, the lower than average disability-free life expectancy of New Brunswickers, is in part attributable to the effects of major diseases such as heart disease and cancer.

Table 1.2 Disability-Free Life Expectancy

Disability-Free Life Expectancy at Birth:
By Gender, Canada and New Brunswick (1996)
Years of Life Free of a Moderate or Severe Disability

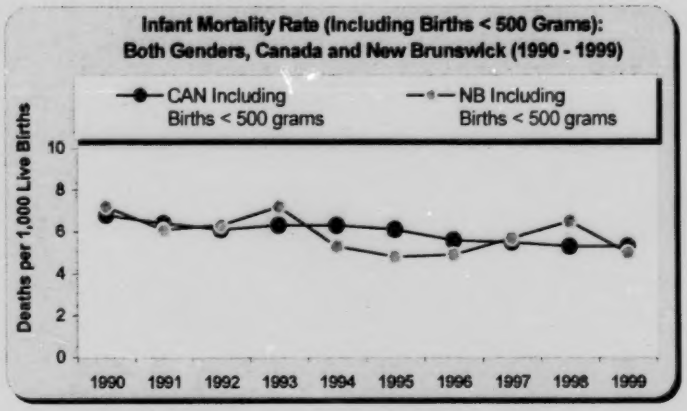
	Both Genders		Males		Females	
Year	**Canada**	**NB**	**Canada**	**NB**	**Canada**	**NB**
1996	68.6	66.6	66.9	64.5	70.2	68.8

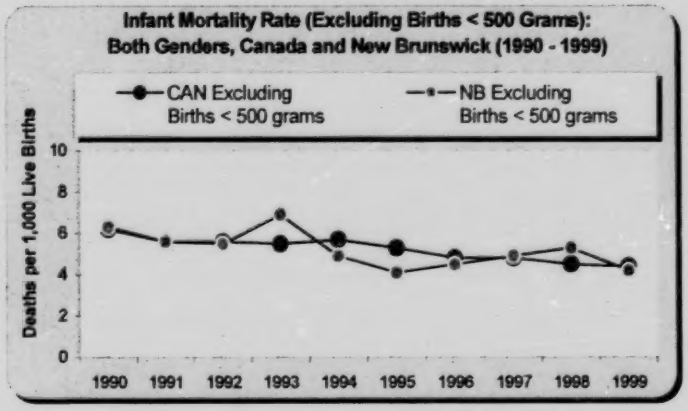
Technical Specifications:

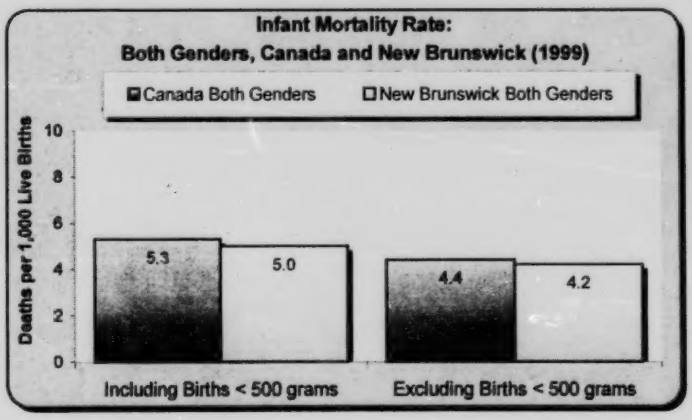
Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used for the life tables. In addition, individuals living on military bases or First Nation reserves are excluded from the health survey and are thus implicitly treated as having the same average rates of disability as the rest of the population.*

Source: *Statistics Canada, Vital Statistics, Death Database and Demography division; census (institutional population counts). Note that this indicator is calculated for only the most recent data year available (1996); trends are not available.*

Infant Mortality







DESCRIPTION:

The number of infants who die in the first year of life, expressed as a rate (per 1,000 live births) for that year. The infant mortality rate both including and excluding births < 500 grams is presented, to allow for analysis of the impact of changes in the prevalence of premature births and very low birth weights.

ANALYSIS:

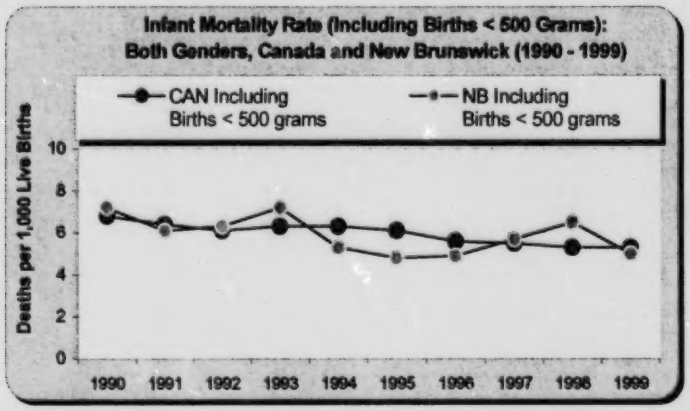
The infant mortality rate is a long-established measure of child health as well as the well-being of a society. In Canada, low birth weight is the principle risk factor associated with infant mortality. Pre-term births account for approximately 75 - 85% of all prenatal mortality in Canada.

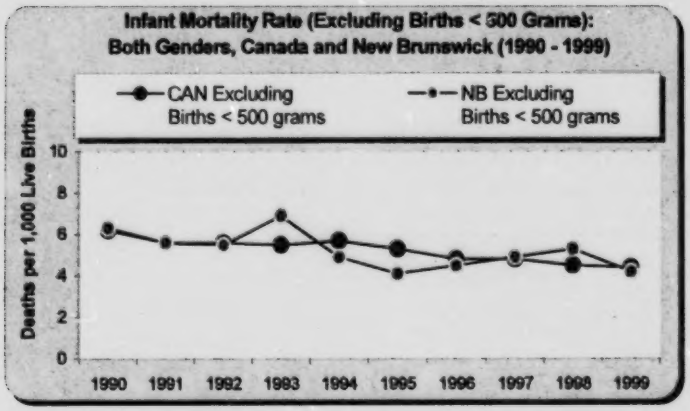
Among developed countries, the average infant mortality rate in 1997 was 7.3 infant deaths per 1,000 live births. Only Japan and Iceland had achieved infant mortality rates of less than 4.0 per 1,000 in 1996

In New Brunswick and Canada as a whole, the infant mortality rate (both including and excluding births < 500g) declined substantially during the period form 1990 to 1999. Nationally, in 1999, 5.3 infants died in the first year of life for every 1,000 children born, including those weighing <500 grams. When infants weighing <500 grams were excluded from analysis, the national rate decreased to 4.4 per 1,000 live births.

New Brunswick's infant mortality rate was slightly better than the national average in 1999 either including or excluding births <500 grams. In 1999, 5 New Brunswick infants died in the first year of life for every 1,000 children born, including those weighing <500 grams. When infants weighing <500 grams were excluded from analysis, the New Brunswick rate decreased to 4.2 per 1,000 live births.

Infant Mortality


Infant Mortality Rate (Including Births < 500 Grams):
Both Genders, Canada and New Brunswick (1990 - 1999)
CAN Including Births < 500 grams
NB Including Births < 500 grams
Deaths per 1,000 Live Births
0
2
4
6
8
10
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999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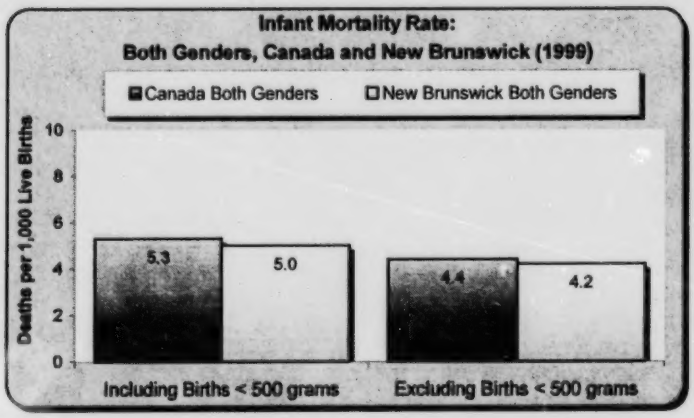

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ANALYSIS:

The infant mortality rate is a long-established measure of child health as well as the well-being of a society. In Canada, low birth weight is the principle risk factor associated with infant mortality. Pre-term births account for approximately 75 - 85% of all prenatal mortality in Canada.

Among developed countries, the average infant mortality rate in 1997 was 7.3 infant deaths per 1,000 live births. Only Japan and Iceland had achieved infant mortality rates of less than 4.0 per 1,000 in 1996.

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Table 2 Infant Mortality

Infant Mortality Rate:
Both Genders, Canada and New Brunswick (1990 - 1999)
Deaths per 1,000 Live Births

	Including Births < 500 grams		Excluding Births < 500 grams	
Year	**Canada**	**NB**	**Canada**	**NB**
1990	6.8	7.2	6.2	6.3
1991	6.4	6.1	5.6	5.6
1992	6.1	6.3	5.6	5.5
1993	6.3	7.2	5.5	6.9
1994	6.3	5.3	5.7	4.9
1995	6.1	4.8	5.3	4.1
1996	5.6	4.9	4.8	4.5
1997	5.5	5.7	4.8	4.9
1998	5.3	6.5	4.5	5.3
1999	5.3	5.0	4.4	4.2

Technical Specifications:

Exclusions: *Births to mothers not resident in Canada, and infant deaths to non-residents of Canada. Infants born outside the province/territory of residence of their mothers or infants who die outside the province/territory of their mother are included in the rates for the mother's province/territory of residence. For example, Hull, Quebec babies who die in Ontario are not counted in the infant mortality rates for Ontario; they are counted in the infant mortality rates for Quebec.*

Numerator: *number of deaths (excluding estimated number weighing less than 500 grams at birth) at less than one year of age, in a given year*

Denominator: *total live births weighing at least 500 grams in a given year*

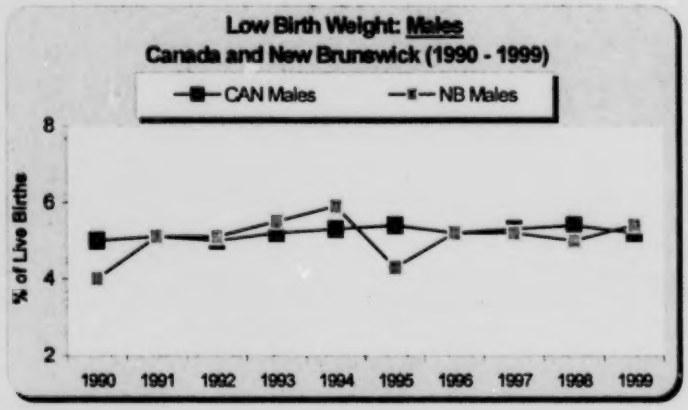
Calculation: *number of deaths divided by total live births X 1,000*

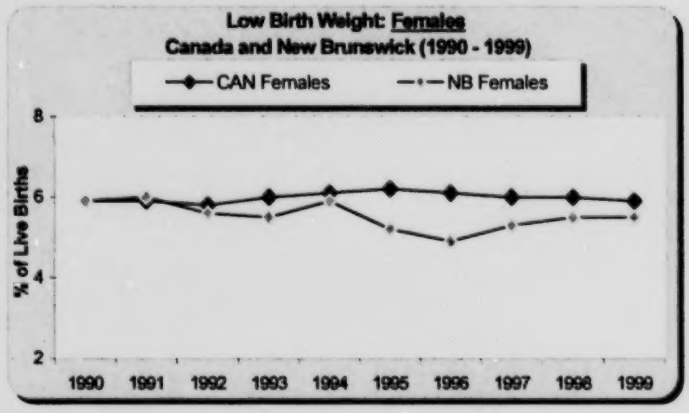
Note: *adjustments for birth weight cannot be provided for births in Newfoundland prior to 1992.*

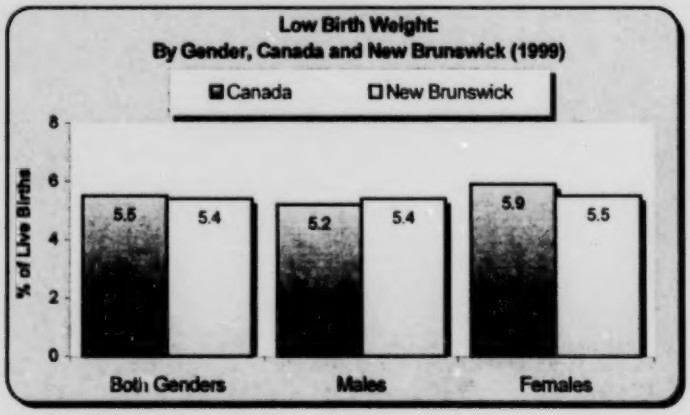
Source: *Statistics Canada, Vital Statistics, Births and Deaths data bases; ISQ*

References: *Community Health Indicators – Definitions and Methods, Statistics Canada website; Statistical Report on the Health of Canadians, ACPH, 1999.*

Low Birth Weight







DESCRIPTION:

The proportion of live births (birth weight known) with a birth weight greater than 500 grams and less than 2500 grams. Note that births where the birth weight is less than 500 grams are excluded from this measure in order to adjust for the impact of treatment advances on the survival of premature and very low birth weight newborns.

ANALYSIS:

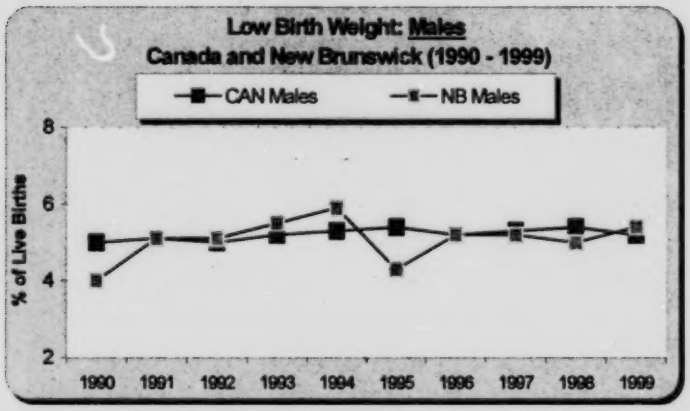
Low birth weight is a measure of the general health of newborns and a key determinate of infant survival, health and development. Low birth weight infants are at a greater risk for adverse health effects such as respiratory problems, learning disabilities, and cerebral palsy or at a greater risk of dying during the first year of life. Low birth weight is associated with multiple births (twins, triplets, etc.), pre-term births, poor maternal health, maternal lifestyle, and socioeconomic factors such as education and income. Among developed countries a low birth weight rate of less than 5 % is considered good.

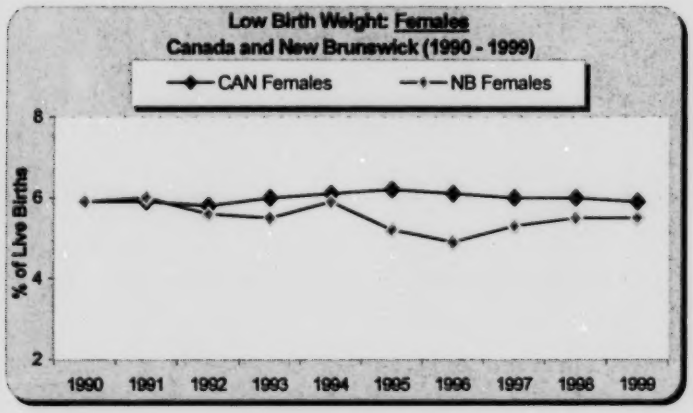
Between 1990 and 1999 there was some fluctuation in New Brunswick's low birth weight rate, but little overall change for either males or females.

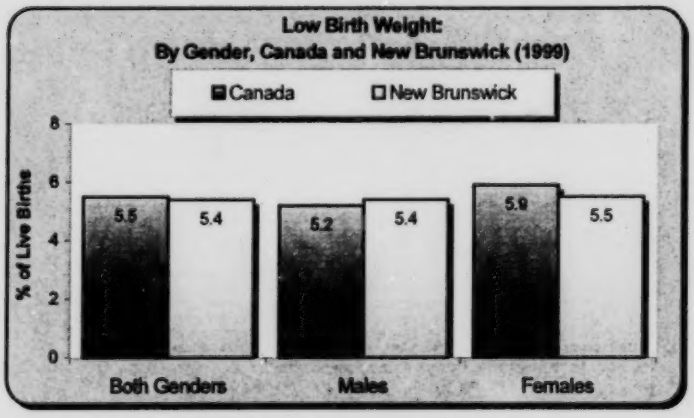
For both New Brunswick and Canada, the low birth weight rate for females tended to be slightly higher than that for males, although this gender difference was somewhat less in New Brunswick than in the nation as a whole.

In 1999, New Brunswick's low birth weight rate for males was approximately 4% higher than the national average (.2 of a percentage point higher). The low birth weight rate for New Brunswick females on the other hand was approximately 7% (.4 of a percentage point) lower than the national average.

Low Birth Weight







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In 1999, New Brunswick's low birth weight rate for males was approximately 4% higher than the national average (.2 of a percentage point higher). The low birth weight rate for New Brunswick females on the other hand was approximately 7% (.4 of a percentage point) lower than the national average.

Table 3 Low Birth Weight

Low Birth Weight:
By Gender, Canada and New Brunswick (1990 - 1999)
Percentage of Live Births

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	5.5	4.9	5.0	4.0	5.9	5.9
1991	5.5	5.5	5.1	5.1	5.9	6.0
1992	5.4	5.3	5.0	5.1	5.8	5.6
1993	5.6	5.5	5.2	5.5	6.0	5.5
1994	5.7	5.9	5.3	5.9	6.1	5.9
1995	5.8	4.7	5.4	4.3	6.2	5.2
1996	5.7	5.1	5.2	5.2	6.1	4.9
1997	5.7	5.3	5.3	5.2	6.0	5.3
1998	5.7	5.3	5.4	5.0	6.0	5.5
1999	5.5	5.4	5.2	5.4	5.9	5.5

Technical Specifications:

Exclusions: *Births with unknown birth weight; births to mothers not resident in Canada are excluded from the numerator and denominator; infants born outside the province/territory of residence of their mothers are included in the rates for the mother's province/territory of residence.*

Numerator: *Number of live births >=500 and <2500 grams within the specified year*

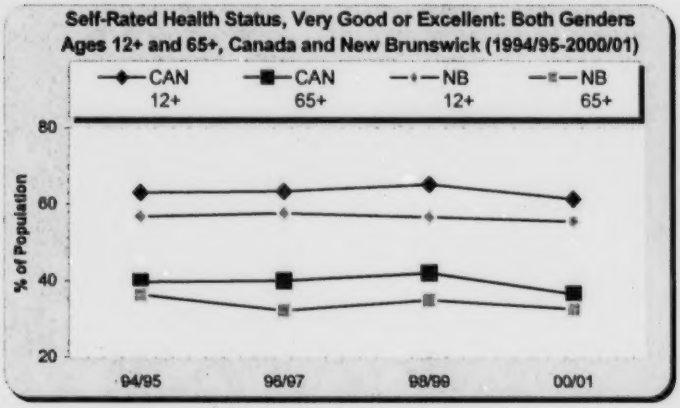
Denominator: *Total live births with known birth weight > =500 grams within the specified year*

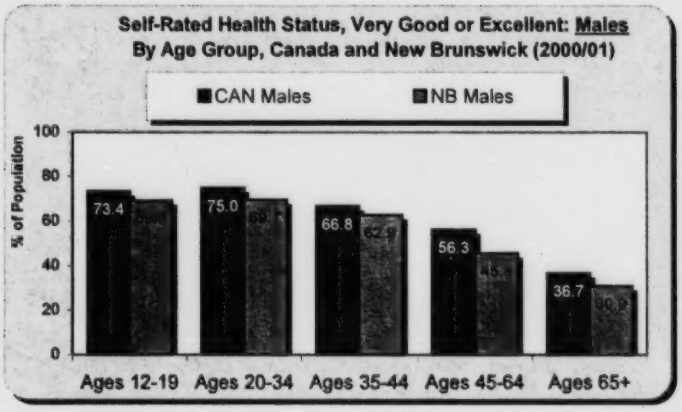
Calculation: *low birth weight percentage = (numerator/denominator) x 100*
- births are assigned to jurisdiction by mother's P/T of residence
- no adjustment for age of mother

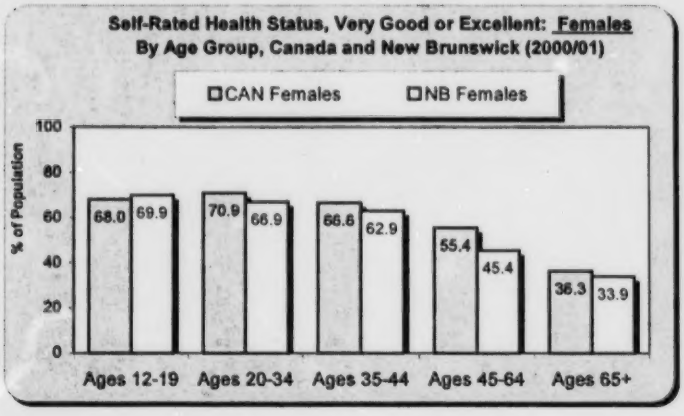
Source: *Statistics Canada, Vital Statistics, Birth database; ISQ*

References: *Statistics Canada Catalogue 84F0210XPB, Births and Deaths; Community Health Indicators – Definitions and Methods, CIHI, 1995; Statistical Report on the Health of Canadians, ACPH, 1999; Stat Can web site.*

Self-Reported Health







DESCRIPTION:

Percent of the population (age 12+ and 65+) who report that their health is very good or excellent.

ANALYSIS:

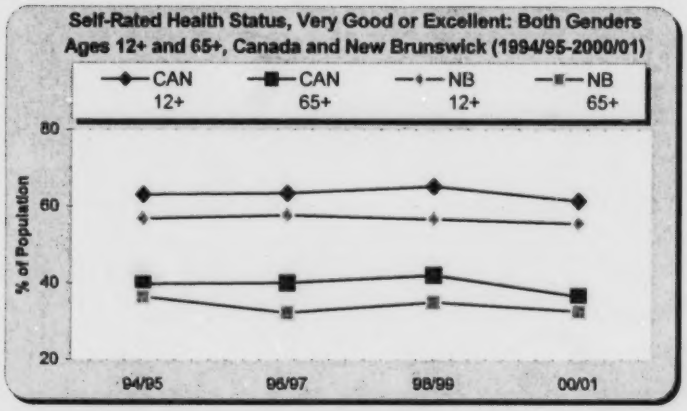
Self-reported health is a general indicator of the overall health status of individuals. Self-reported health data is collected on a five point reporting scale, ranging from excellent to poor. Numerous longitudinal studies have found that self-reported health is predictive of chronic disease incidence, functional decline and mortality.

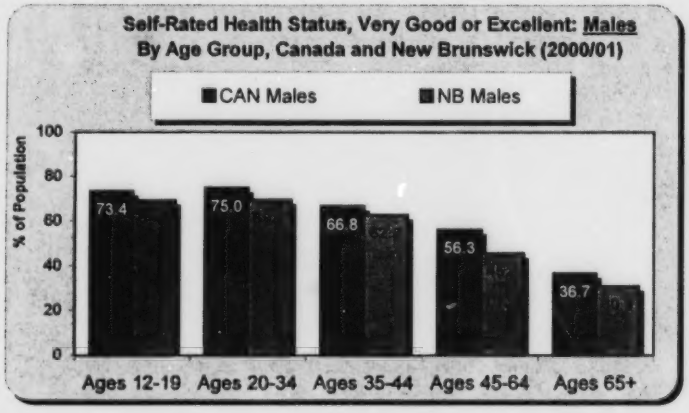
From 1994/95 to 2000/01 the percentage of Canadians 12+ rating their health as "very good" or "excellent" declined slightly from 63.1% to 61.4%. Over the same time period the percentage of New Brunswickers 12+ who rated their health as "very good" or "excellent" declined from 56.8% to 55.5%.

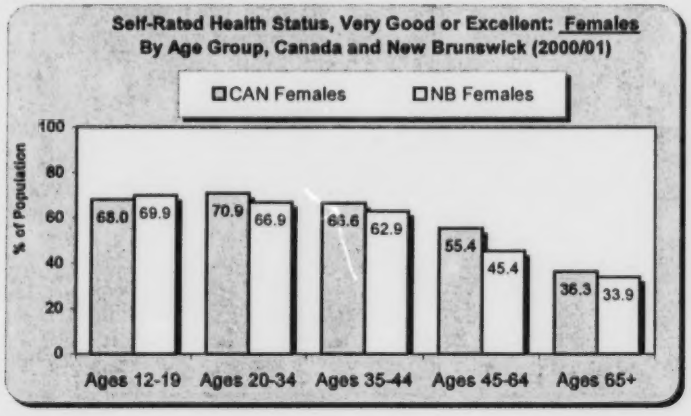
Not surprisingly, the percentage of the population who rate their health as "very good" or "excellent" declines substantially as individuals get older.

With the exception of 12 to 19 year old females, in 2000/01, New Brunswickers in all age groups and both genders tended to rate their health less positively than the Canadian average. This pattern of lower than average self-rated health status has been consistently observed over the past half decade and is thought to be at least partially attributable to New Brunswickers' relatively high rates of obesity and low rates of physical activity.

Self-Reported Health







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Tables 4 Self-Reported Health

Self Reported Health, Very Good or Excellent:
By Gender, Canada and New Brunswick (1994/95 to 2000/01)
Percent of Population

Age Groups By Year	CAN Both	NB Both	CAN Males	NB Males	CAN Females	NB Females
1994/1995						
12+	63.1	56.8	65.5	58.3	60.8	55.3
12-19	72.6	73.6	75.8	72.8	69.1	74.4
20-34	72.8	66.8	75.2	70.6	70.6	63.1
35-44	68.0	61.6	69.6	62.8	66.3	60.3
45-64	55.9	43.6	57.8	43.0	54.0	44.1
65+	39.7	36.4	39.3	37.7 E	40.0	35.5
1996/1997						
12+	63.4	57.7	65.3	60.0	61.6	55.6
12-19	72.8	74.1	77.4	75.8	68.0	72.1
20-34	73.1	70.6	74.4	72.9	71.9	68.5
35-44	67.3	52.5	67.6	54.0	66.9	51.0
45-64	58.4	54.7	59.6	57.4	57.2	51.9
65+	40.0	32.2	40.4	31.0 E	39.7	33.1
1998/1999						
12+	65.2	56.7	67.3	59.3	63.2	54.3
12-19	80.5	77.0	83.9	83.2	77.0	68.0
20-34	73.7	66.4	75.9	68.4	71.5	64.6
35-44	68.2	58.1	67.8	65.1	68.7	51.5
45-64	59.7	48.8	61.7	46.6	57.8	50.9
65+	42.0	34.9	43.4	30.1 E	40.9	38.5
2000/2001						
12+	61.4	55.5	62.9	56.3	59.9	54.9
12-19	70.8	69.6	73.4	69.3	68.0	69.9
20-34	73.0	68.3	75.0	69.7	70.9	66.9
35-44	66.7	62.9	66.8	62.9	66.6	62.9
45-64	55.8	45.6	56.3	45.8	55.4	45.4
65+	36.5	32.6	36.7	30.9	36.3	33.9

(E: Use with caution)

Technical Specifications:

Exclusions: *Persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time member of Canadian Armed Forces and residents of certain remote regions are excluded from the sample. Persons less than 12 years of age are not surveyed.*

Numerator: *estimated number of persons reporting excellent or very good health within a survey cycle for a given jurisdiction (response categories are excellent, very good, good, fair, poor)*

Denominator: *total population aged 12 and over in the jurisdiction*

Calculation: *(numerator/denominator) x 100, with weighting adjusted to reflect non-response*

Source: *Canadian Community Health Survey – Cycle 1.1 – 2000/2001; National Population Health Surveys (1994-95 to 1998-99)*

References: *Statistical Report on the Health of Canadians, ACPH, 1999, Health Reports, Vol. 11, No. 3 How healthy are Canadians?; NPHS and CCHS documentation and analysis found on www.statcan.ca/health_surveys, www.healthcanada.ca.*

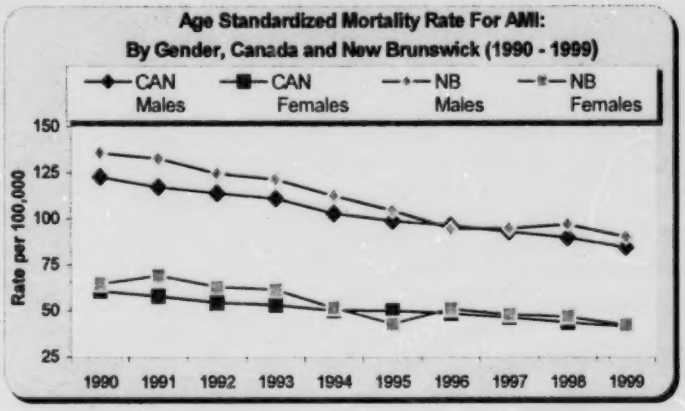
HEALTH OUTCOMES

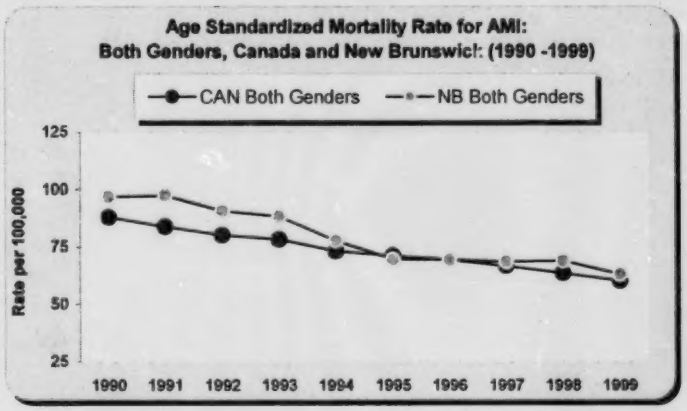
Indicators in this area are intended to reflect the impact of health system programs and services on health status. It is recognized that the extent to which particular health outcomes are attributable to health programs and services is difficult to assess based on indicator data alone. Where possible, indicators have been selected where the link between particular interventions and impact on health outcomes has been well established through research.

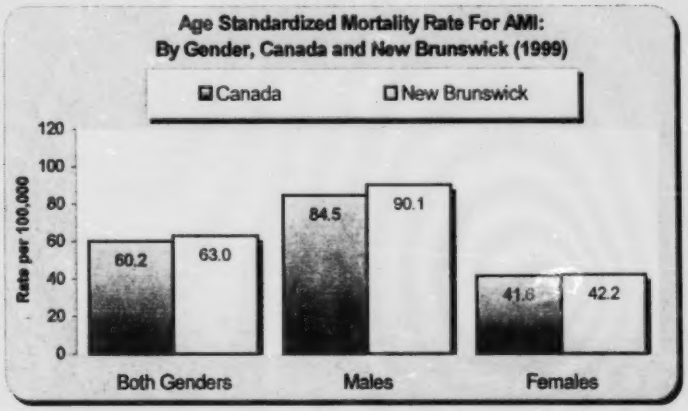
The three health outcome areas in this section are linked, focusing primarily on indicators for several large disease groups of considerable interest to the public: cancer, heart disease and stroke. These indicators fit together to "tell the story". For example, incidence and mortality rates show the overall burden of disease for these conditions and provide context for survival rates. Short-and longer-term survival measures reflect the impact of acute care and longer-term care, respectively, and together, show where, and to what extent, the health system makes a difference to survival. Potential years of life lost (PYLL) measures reflect the extent of success in preventing premature loss of life due to these specific causes.

Although some health system interventions save lives, most interventions are designed to improve health-related quality of life. This is the intended outcome of joint-replacement surgery, and research evidence supports the effectiveness of this surgery in improving health-related quality of life. Hip and knee replacement surgery rates are utilized as surrogate indicators of improved quality of life, until more comparable and specific measures of patient function and pain, associated with various health conditions, are in place across the country.

Mortality Rate for Acute Myocardial Infarction







DESCRIPTION:

The number of deaths due to acute myocardial infarction (AMI), per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

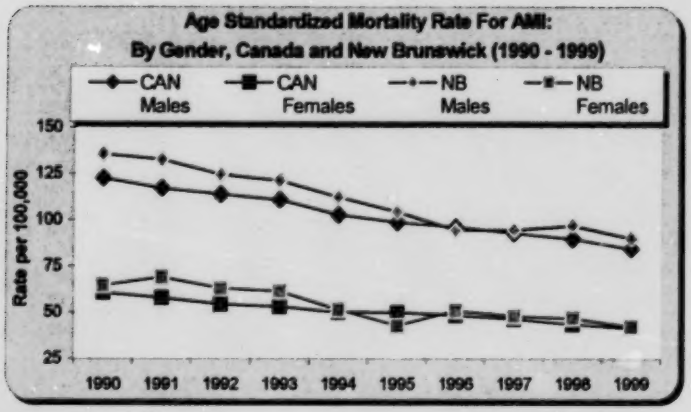
The age-standardized mortality rate due to AMI (heart attack) in New Brunswick and Canada as a whole declined substantially for both males and females during the past decade. The mortality rate for Canadian males fell by roughly 31% between 1990 and 1999, while the rate for New Brunswick males fell by close to 34%. Among females, the Canadian rate fell by approximately 32% while the New Brunswick rate declined by almost 35% between 1990 and 1999. During the first half of the 1990's AMI mortality rates for New Brunswick males and females were consistently higher than the national average. However by the latter half of the decade, this gap had been substantially reduced.

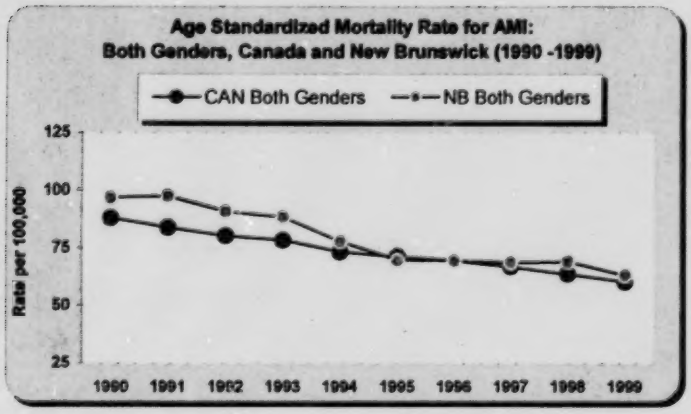
The AMI mortality rate for males has historically been close to double that for females. In 1999, AMI mortality rate for Canadian females was approximately 51% less than that for males. In New Brunswick this gender gap was slightly larger, with the AMI mortality rate for NB females being 54% less than that for NB males.

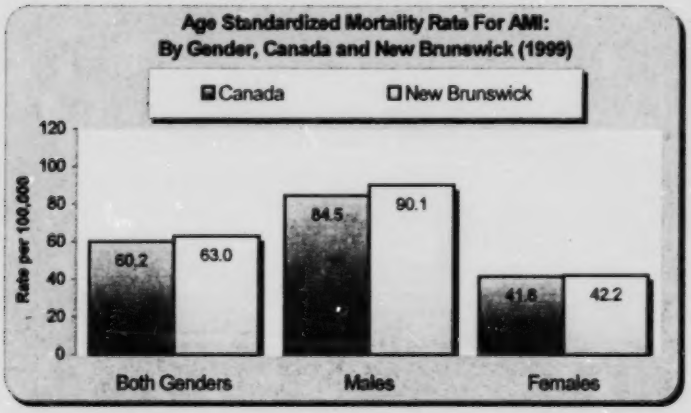
In 1999, the AMI mortality rate for New Brunswick males was approximately 6% above the national average, while the rate for New Brunswick females was only about 1% higher than the national average.

The dramatic decline in AMI mortality rates witnessed over the past decade is largely attributable to improvements in the treatment and secondary prevention of heart disease.

Mortality Rate for Acute Myocardial Infarction







DESCRIPTION:

The number of deaths due to acute myocardial infarction (AMI), per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

The age-standardized mortality rate due to AMI (heart attack) in New Brunswick and Canada as a whole declined substantially for both males and females during the past decade. The mortality rate for Canadian males fell by roughly 31% between 1990 and 1999, while the rate for New Brunswick males fell by close to 34%. Among females, the Canadian rate fell by approximately 32% while the New Brunswick rate declined by almost 35% between 1990 and 1999. During the first half of the 1990's AMI mortality rates for New Brunswick males and females were consistently higher than the national average. However by the latter half of the decade, this gap had been substantially reduced.

The AMI mortality rate for males has historically been close to double that for females. In 1999, AMI mortality rate for Canadian females was approximately 51% less than that for males. In New Brunswick this gender gap was slightly larger, with the AMI mortality rate for NB females being 54% less than that for NB males.

In 1999, the AMI mortality rate for New Brunswick males was approximately 6% above the national average, while the rate for New Brunswick females was only about 1% higher than the national average.

The dramatic decline in AMI mortality rates witnessed over the past decade is largely attributable to improvements in the treatment and secondary prevention of heart disease.

Table 5.1.1 Age Standardized Mortality Rate for Acute Myocardial Infarction

Age Standardized Mortality Rate for Acute Myocardial Infarction
By Gender, Canada and New Brunswick (1990 - 1999)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	88.0	96.8	122.7	135.7	60.9	64.7
1991	83.9	97.5	117.2	132.6	58.0	69.2
1992	80.2	90.7	113.8	124.6	54.4	63.0
1993	78.2	88.2	111.0	121.2	53.1	61.3
1994	73.2	77.7	102.9	112.5	50.3	51.6
1995	71.2	69.7	98.8	104.3	50.0	43.0
1996	69.4	69.4	96.4	94.5	48.4	51.0
1997	66.7	68.6	92.8	94.6	46.6	48.1
1998	63.6	68.9	89.7	96.9	43.6	46.8
1999	60.2	63.0	84.5	90.1	41.6	42.2

Technical Specifications:

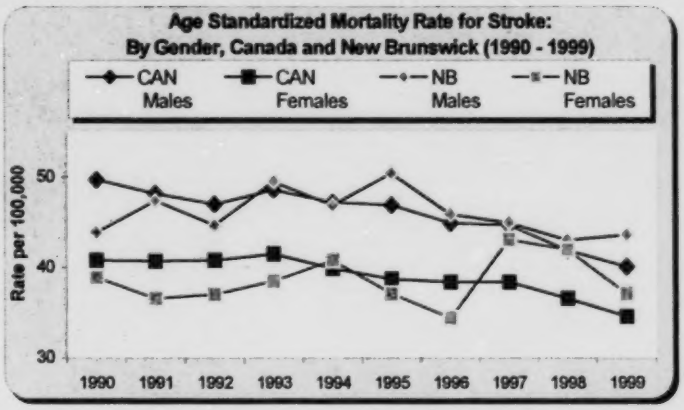
Exclusions: *Deaths of non-residents of Canada*

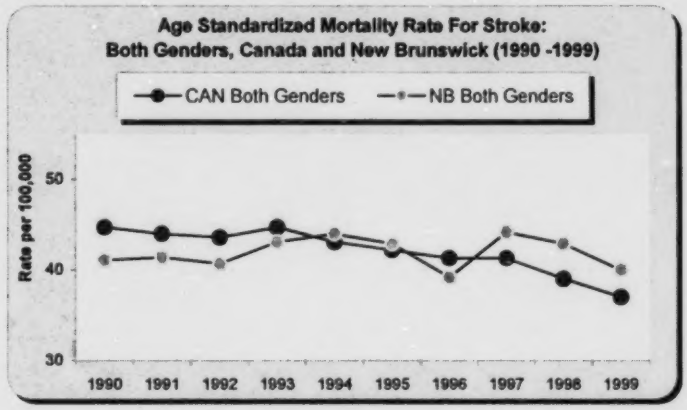
Source: *Statistics Canada, Vital Statistics, and Demography Division (census population estimates); ISQ*

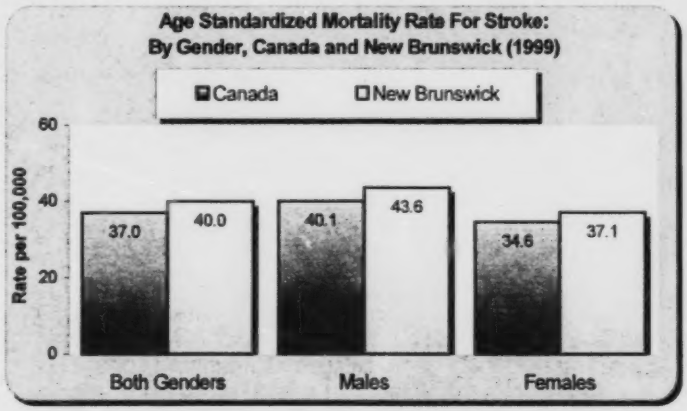
Calculation: *The age-standardized rate for each cancer site (colon/rectum (ICD-9 153-154), lung (ICD-9 162), female breast (ICD-9 174), and prostate (ICD-9 185), and for acute myocardial infarction (ICD-9 410), cerebrovascular disease (ICD-9 430-438) and the subset for all strokes (ICD-9 430-432, 434, 436) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada Vital Statistics Death Databases*

Mortality Rate for Stroke







DESCRIPTION:

The number of deaths due to stroke, per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

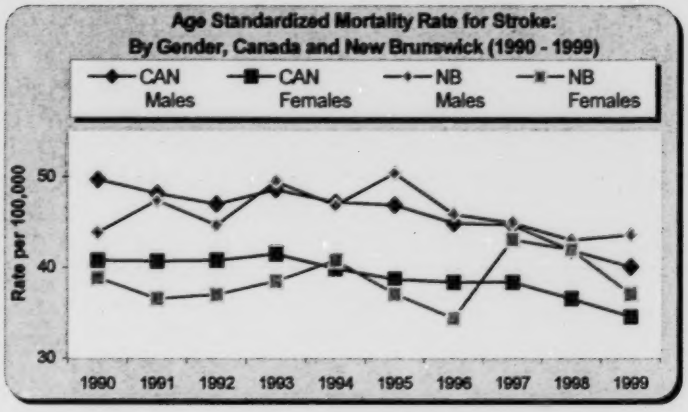
The mortality rate due to stroke in Canada decreased steadily from 1990 to 1999. During this decade the national mortality rate for both males and females fell by approximately 20%. The stroke mortality rate for New Brunswick males and females during this period was much more variable than the national rate, with no evidence of a consistent upward or downward trend in either gender.

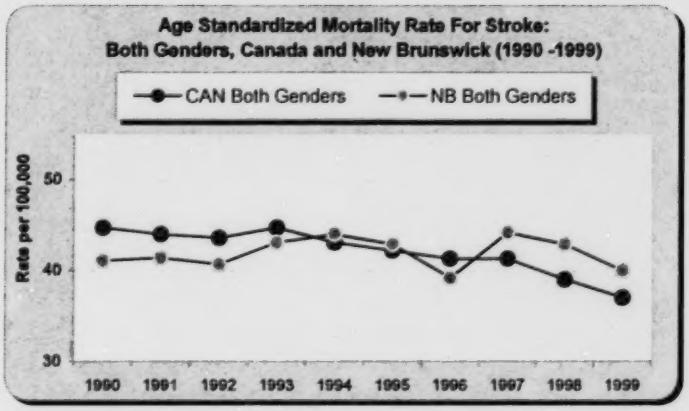
During the first half of the 1990's New Brunswick's stroke mortality rate for both males and females tended to be lower than the national average. However, during the latter part of the decade, New Brunswick's rate, particularly for females, tended to exceed the national average.

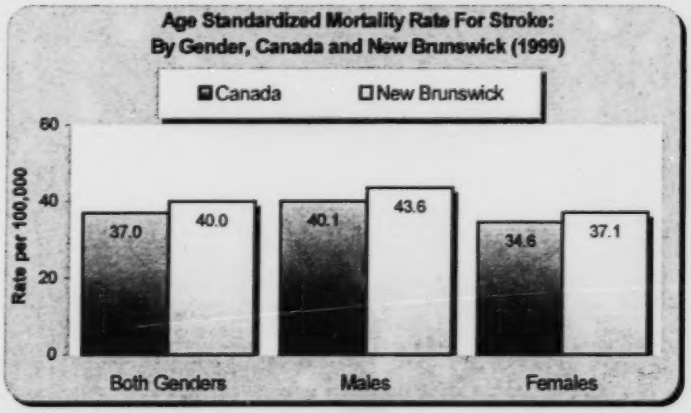
As with heart disease, the stroke mortality rate has historically been higher in males than females. In 1999, Canadian females were roughly 14% less likely to die from a stroke than were Canadian males. In New Brunswick, there was a similar gender gap, with females being approximately 15% less likely to die from a stroke than males.

In 1999, the stroke mortality rate for New Brunswick males was 9% higher than the Canadian average, while that of NB females was 7% higher than the national rate. It should be noted, however that for the entire 1990 - 1999 period, there was virtually no difference in the average New Brunswick and Canadian rate for either males or females.

Mortality Rate for Stroke







DESCRIPTION:

The number of deaths due to stroke, per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

The mortality rate due to stroke in Canada decreased steadily from 1990 to 1999. During this decade the national mortality rate for both males and females fell by approximately 20%. The stroke mortality rate for New Brunswick males and females during this period was much more variable than the national rate, with no evidence of a consistent upward or downward trend in either gender.

During the first half of the 1990's New Brunswick's stroke mortality rate for both males and females tended to be lower than the national average. However, during the latter part of the decade, New Brunswick's rate, particularly for females, tended to exceed the national average.

As with heart disease, the stroke mortality rate has historically been higher in males than females. In 1999, Canadian females were roughly 14% less likely to die from a stroke than were Canadian males. In New Brunswick, there was a similar gender gap, with females being approximately 15% less likely to die from a stroke than males.

In 1999, the stroke mortality rate for New Brunswick males was 9% higher than the Canadian average, while that of NB females was 7% higher than the national rate. It should be noted, however that for the entire 1990 - 1999 period, there was virtually no difference in the average New Brunswick and Canadian rate for either males or females.

Table 5.1.2 Age Standardized Mortality Rate for Stroke

Age Standardized Mortality Rate for Stroke
By Gender, Canada and New Brunswick (1990 - 1999)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	44.7	41.1	49.7	43.9	40.8	38.9
1991	44.0	41.4	48.2	47.4	40.7	36.6
1992	43.6	40.7	47.0	44.7	40.8	37.0
1993	44.7	43.1	48.6	49.5	41.5	38.5
1994	43.1	44.0	47.2	46.9	39.9	40.8
1995	42.2	42.9	46.9	50.4	38.7	37.1
1996	41.3	39.2	44.9	45.9	38.4	34.4
1997	41.3	44.2	44.7	44.9	38.4	43.1
1998	39.0	42.9	41.9	43.0	36.6	42.0
1999	37.0	40.0	40.1	43.6	34.6	37.1

Technical Specifications:

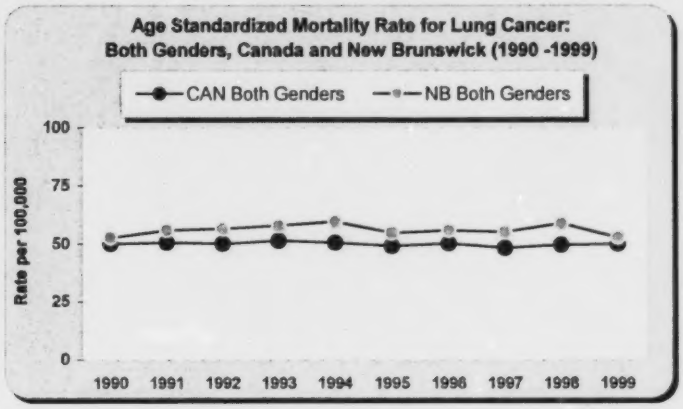
Exclusions: *Deaths of non-residents of Canada*

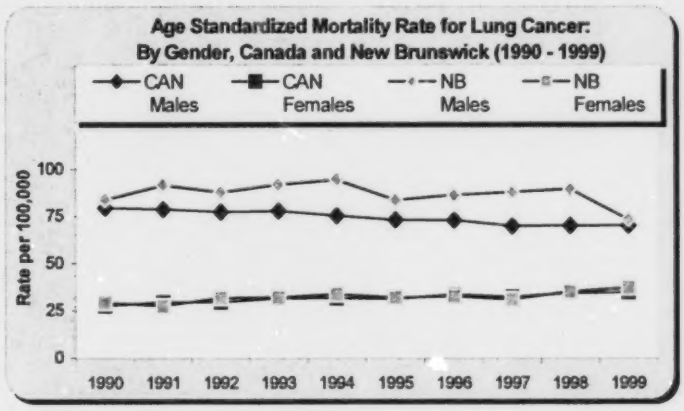
Source: *Statistics Canada, Vital Statistics, and Demography Division (census population estimates); ISQ*

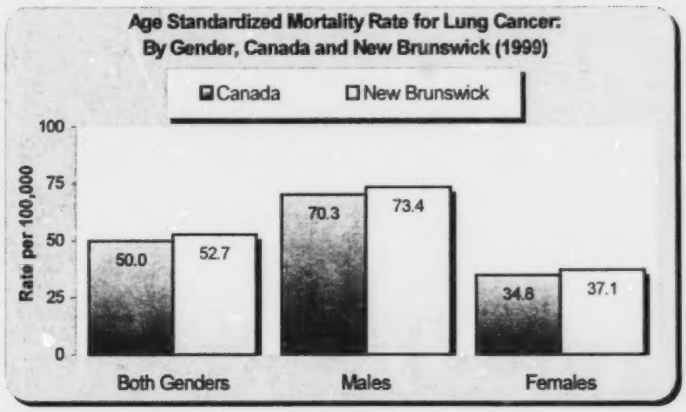
Calculation: *The age-standardized rate for each cancer site (colon/rectum (ICD-9 153-154), lung (ICD-9 162), female breast (ICD-9 174), and prostate (ICD-9 185), and for acute myocardial infarction (ICD-9 410), cerebrovascular disease (ICD-9 430-438) and the subset for all strokes (ICD-9 430-432, 434, 436) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada Vital Statistics Death Databases*

Mortality Rate for Lung Cancer







DESCRIPTION:

The number of deaths due to lung cancer, per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between jurisdictions that have different proportions of older and younger individuals in their population.

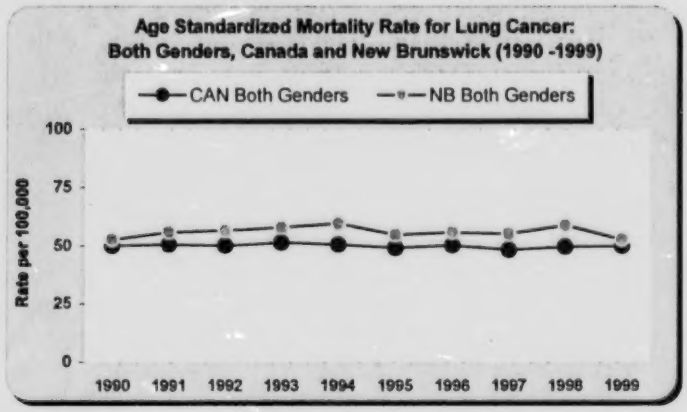
ANALYSIS:

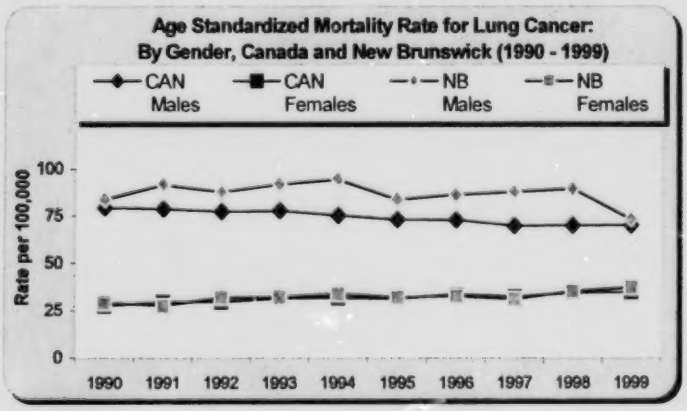
In Canada, the mortality rate due to lung cancer for males decreased from 79.5 in 1990 to 70.3 in 1999. Conversely, the Canadian average for females increased from 27.6 in 1990 to 34.8 in 1999. Over the same time period, the mortality rate due to lung cancer in New Brunswick males showed no consistent upward or downward trend, while that of New Brunswick females showed a pattern similar to the national trend, increasing from 29.1 in 1990 to 37.1 in 1999. As a result of these opposing trends in males and females there was little change in the total mortality rate due to lung cancer either nationally or provincially, over the past decade.

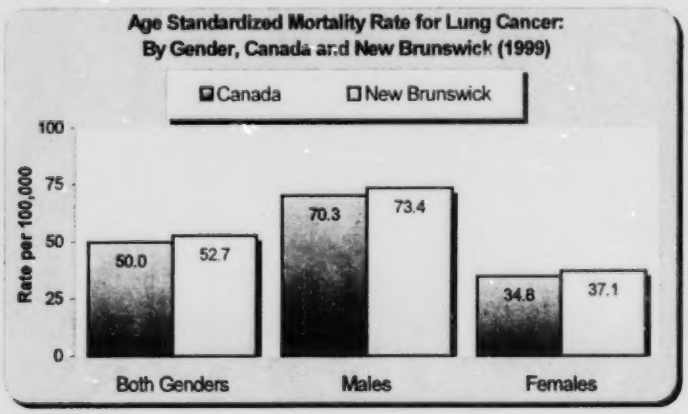
In 1999, in both Canada and New Brunswick, the mortality rate for lung cancer in males was approximately double the rate in females. In New Brunswick the male mortality rate was approximately 4% higher than the national average, while the rate for New Brunswick females was roughly 7% higher than the national average. However, it should be noted that over the ten year period from 1990 to 1999, the mortality rate for New Brunswick males was on average 16.7% higher than the comparable national average.

Differences in lung cancer mortality rates are thought to be primarily attributable to differences in smoking rates in previous decades, as well as current differences in the detection and treatment of lung cancer.

Mortality Rate for Lung Cancer







DESCRIPTION:

The number of deaths due to lung cancer, per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

In Canada, the mortality rate due to lung cancer for males decreased from 79.5 in 1990 to 70.3 in 1999. Conversely, the Canadian average for females increased from 27.6 in 1990 to 34.8 in 1999. Over the same time period, the mortality rate due to lung cancer in New Brunswick males showed no consistent upward or downward trend, while that of New Brunswick females showed a pattern similar to the national trend, increasing from 29.1 in 1990 to 37.1 in 1999. As a result of these opposing trends in males and females there was little change in the total mortality rate due to lung cancer either nationally or provincially, over the past decade.

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Differences in lung cancer mortality rates are thought to be primarily attributable to differences in smoking rates in previous decades, as well as current differences in the detection and treatment of lung cancer.

Table 5.1.3 Age-Standardized Mortality Rate for Lung Cancer

Age Standardized Mortality Rate for Lung Cancer:
By Gender, Canada and New Brunswick (1990 - 1999)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	49.9	52.6	79.5	83.8	27.6	29.1
1991	50.6	55.8	78.8	91.6	29.5	27.6
1992	50.1	56.5	77.5	87.7	29.6	31.8
1993	51.4	57.9	77.9	91.9	31.7	32.1
1994	50.5	59.6	75.5	94.5	31.9	33.7
1995	49.1	54.7	73.2	83.7	31.3	32.0
1996	50.2	55.8	72.9	86.4	33.6	32.8
1997	48.2	55.1	69.9	87.8	32.3	31.0
1998	49.6	58.8	70.1	89.5	34.5	35.1
1999	50.0	52.7	70.3	73.4	34.8	37.1

Technical Specifications:

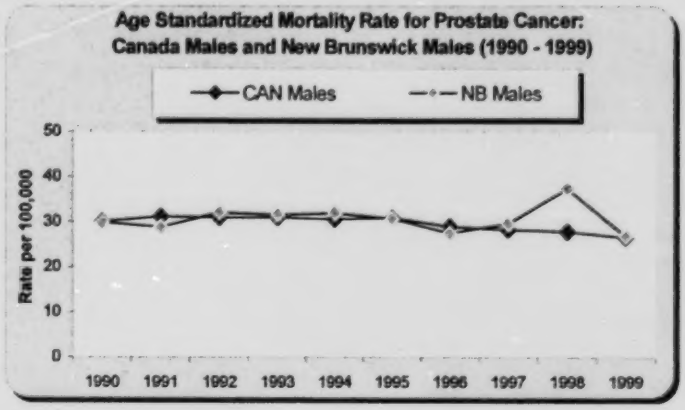
Exclusions: *Deaths of non-residents of Canada*

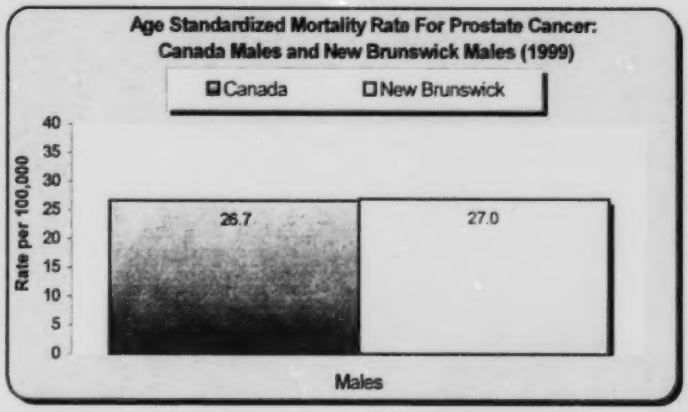
Source: *Statistics Canada, Vital Statistics, and Demography Division (census population estimates) ; ISQ*

Calculation: *The age-standardized rate for each cancer site (colon/rectum (ICD-9 153-154), lung (ICD-9 162), female breast (ICD-9 174), and prostate (ICD-9 185), and for acute myocardial infarction (ICD-9 410), cerebrovascular disease (ICD-9 430-438) and the subset for all strokes (ICD-9 430-432, 434, 436) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada Vital Statistics Death Databases*

Mortality Rate for Prostate Cancer





DESCRIPTION:

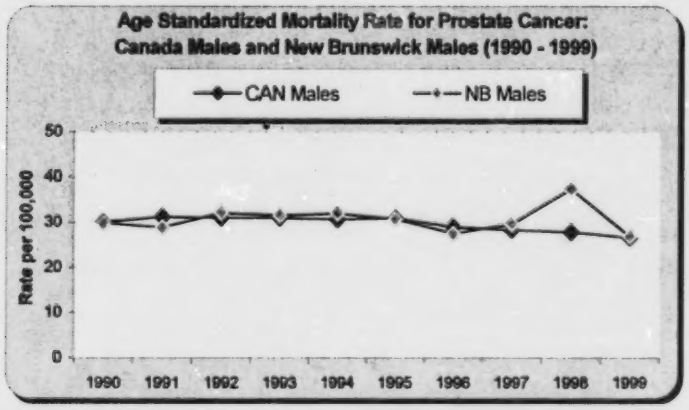
The number of deaths due to prostate cancer, per 100,000 male population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population.

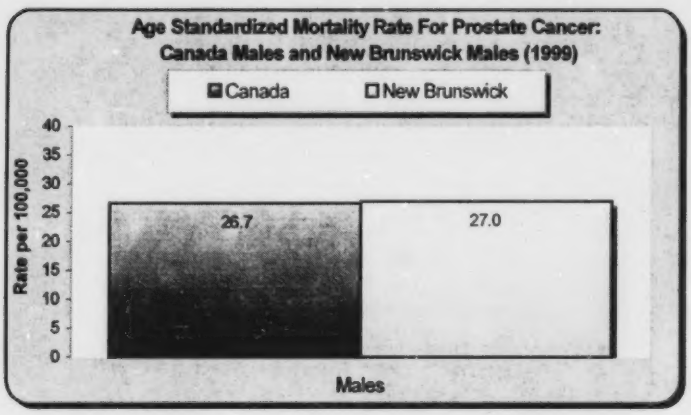
ANALYSIS:

The mortality rate due to prostate cancer in Canadian males decreased from 30.1 per 100,000 in 1990 to 26.7 in 1999. The rate in New Brunswick was similar to the Canadian average for most of the ten-year period, with the exception of 1998, when an unusually high number of prostate cancer deaths were recorded. Overall, there was little change in the prostate cancer mortality rate for New Brunswick males during the past decade.

In 1999, the age-standardized mortality rate for prostate cancer in New Brunswick males was essentially the same as the Canadian average at approximately 27 per 100,000.

Mortality Rate for Prostate Cancer





DESCRIPTION:

The number of deaths due to prostate cancer, per 100,000 male population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

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In 1999, the age-standardized mortality rate for prostate cancer in New Brunswick males was essentially the same as the Canadian average at approximately 27 per 100,000.

Table 5.1.4 Age-Standardized Mortality Rate for Prostate Cancer

Age-Standardized Mortality Rate for Prostate Cancer
Canada Males and New Brunswick Males (1990 - 1999)
Rate per 100,000 Population

	Males	
Year	**Canada**	**NB**
1990	30.1	29.9
1991	31.2	28.9
1992	31.0	32.1
1993	31.0	31.6
1994	30.7	32.0
1995	31.0	30.8
1996	29.0	27.6
1997	28.4	29.7
1998	27.9	37.4
1999	26.7	27.0

Technical Specifications:

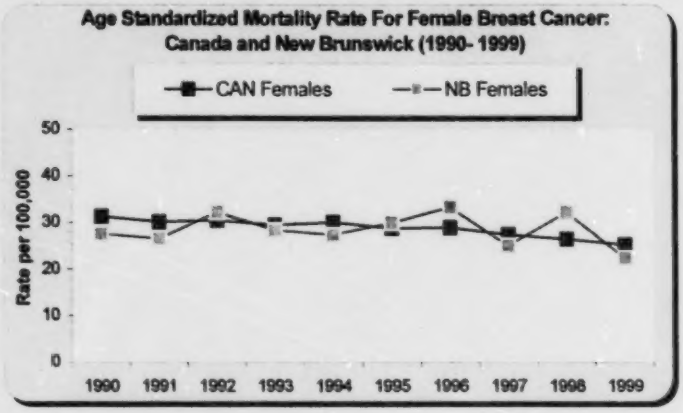
Exclusions: *Deaths of non-residents of Canada*

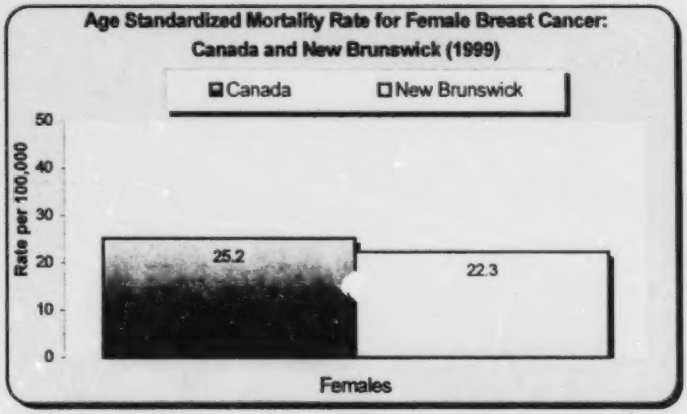
Source: *Statistics Canada, Vital Statistics, and Demography Division (census population estimates); ISQ*

Calculation: *The age-standardized rate for each cancer site (colon/rectum (ICD-9 153-154), lung (ICD-9 162), female breast (ICD-9 174), and prostate (ICD-9 185), and for acute myocardial infarction (ICD-9 410), cerebrovascular disease (ICD-9 430-438) and the subset for all strokes (ICD-9 430-432, 434, 436) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada Vital Statistics Death Databases*

Mortality Rate for Breast Cancer





DESCRIPTION:

The number of deaths due to breast cancer, per 100,000 female population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between jurisdictions that have different proportions of older and younger individuals in their population.

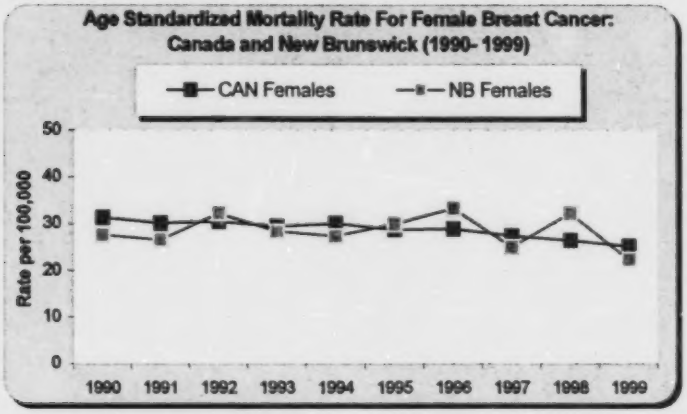
ANALYSIS:

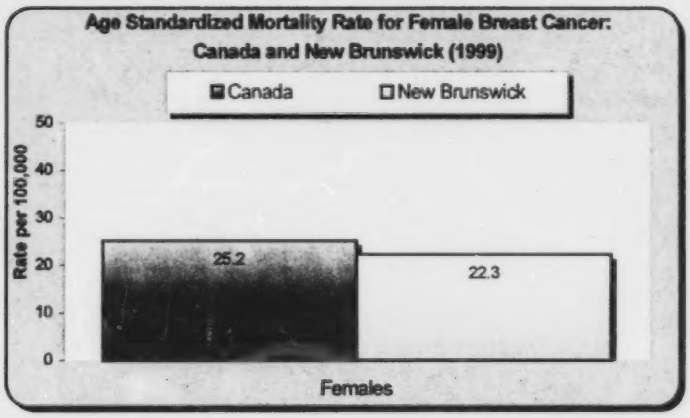
Canadian females have experienced a steady decrease in mortality due to breast cancer over the past decade. The rate has fallen from 31.3 per 100,000 in 1990 to 25.2 in 1999. Overall, there appears to be a downward trend in the New Brunswick rate, with the average rate for 1997 - 1999 (26.5) being approximately 8 % lower than the average rate observed from 1990 - 1992 (28.8)

In 1999, the breast cancer mortality rate for New Brunswick females was roughly 12% lower than the national average. However, over the ten year period from 1990 to 1999, the mortality rate for New Brunswick females was, on average, no different than the rate for Canada as a whole.

Decreases in mortality due to breast cancer are attributable to improvements in early detection (e.g., screening mammography) and treatment.

Mortality Rate for Breast Cancer





DESCRIPTION:

The number of deaths due to breast cancer, per 100,000 female population, that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

Canadian females have experienced a steady decrease in mortality due to breast cancer over the past decade. The rate has fallen from 31.3 per 100,000 in 1990 to 25.2 in 1999. Overall, there appears to be a downward trend in the New Brunswick rate, with the average rate for 1997 - 1999 (26.5) being approximately 8 % lower than the average rate observed from 1990 - 1992 (28.8)

In 1999, the breast cancer mortality rate for New Brunswick females was roughly 12% lower than the national average. However, over the ten year period from 1990 to 1999, the mortality rate for New Brunswick females was, on average, no different than the rate for Canada as a whole.

Decreases in mortality due to breast cancer are attributable to improvements in early detection (e.g., screening mammography) and treatment.

Table 5.1.5 Age-Standardized Mortality Rate for Female Breast Cancer

Age Standardized Mortality Rate for Female Breast Cancer:
Canada and New Brunswick (1990 - 1999)
Rate per 100,000 Population

	Females	
Year	**Canada**	**NB**
1990	31.3	27.6
1991	30.1	26.5
1992	30.4	32.2
1993	29.4	28.3
1994	30.0	27.3
1995	28.7	29.9
1996	28.9	33.3
1997	27.4	25.0
1998	26.4	32.2
1999	25.2	22.3

Technical Specifications:

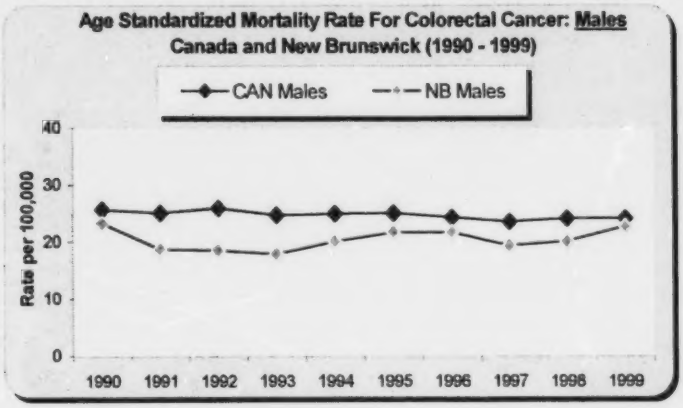
Exclusions: *Deaths of non-residents of Canada*

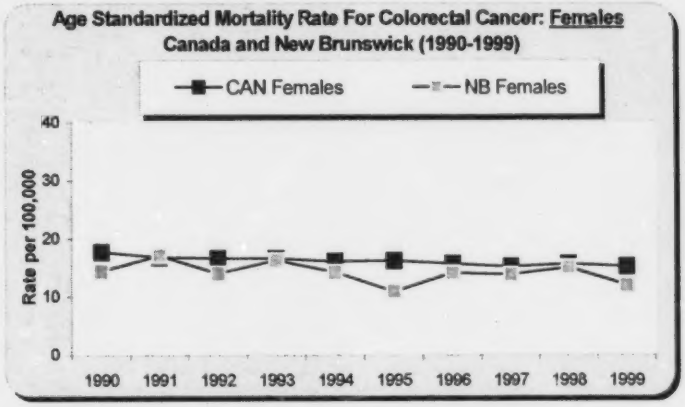
Source: *Statistics Canada, Vital Statistics, and Demography Division (census population estimates); ISQ*

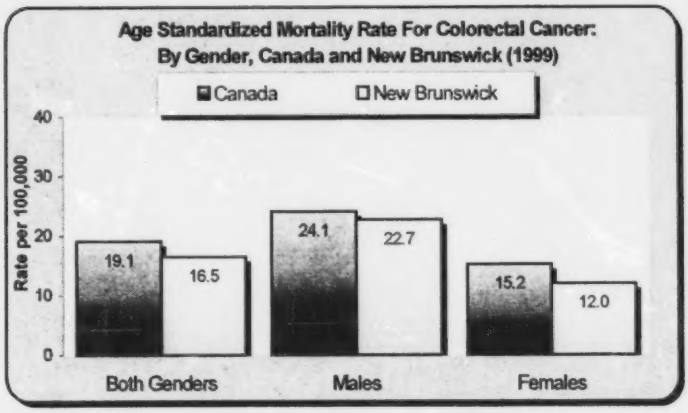
Calculation: *The age-standardized rate for each cancer site (colon/rectum (ICD-9 153-154), lung (ICD-9 162), female breast (ICD-9 174), and prostate (ICD-9 185), and for acute myocardial infarction (ICD-9 410), cerebrovascular disease (ICD-9 430-438) and the subset for all strokes (ICD-9 430-432, 434, 436) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada Vital Statistics Death Databases*

Mortality Rate for Colorectal Cancer







DESCRIPTION:

The number of deaths due to colorectal cancer, per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in a given year had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

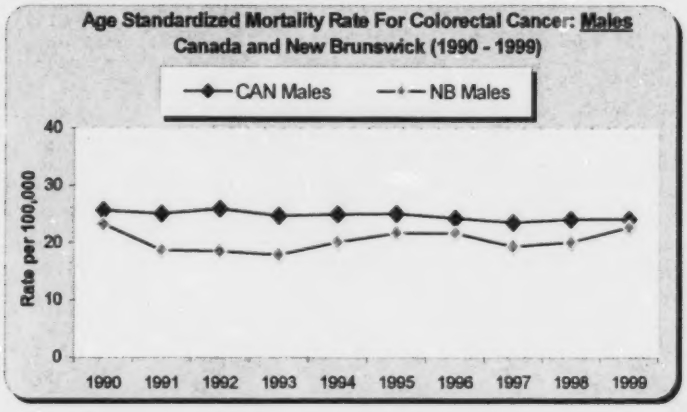
The mortality rate due to colorectal cancer for Canadian males decreased from 25.7 in 1990 to 24.1 in 1999. Over the same time period the colorectal cancer mortality rate for New Brunswick males was consistently below the national average, but showed no consistent upward or downward trend.

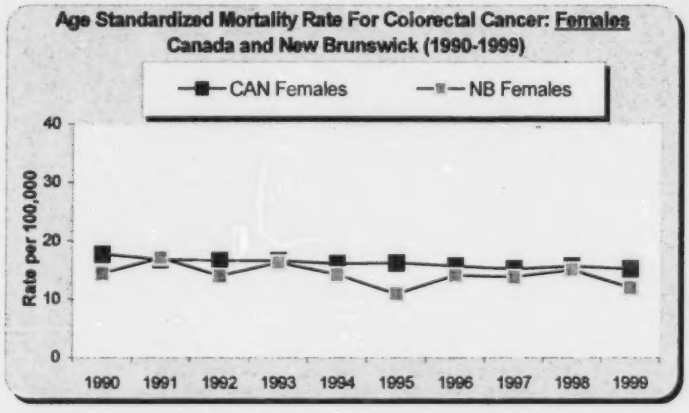
The colorectal cancer mortality rate for females in Canada decreased from 17.7 in 1990 to 15.2 in 1999. The rate for New Brunswick females over this period was below the Canadian average in all years except 1991, and also showed a downward trend, declining from an average rate of 15.2 from 1990 to 1992 to an average rate of 13.6 from 1997 to 1999.

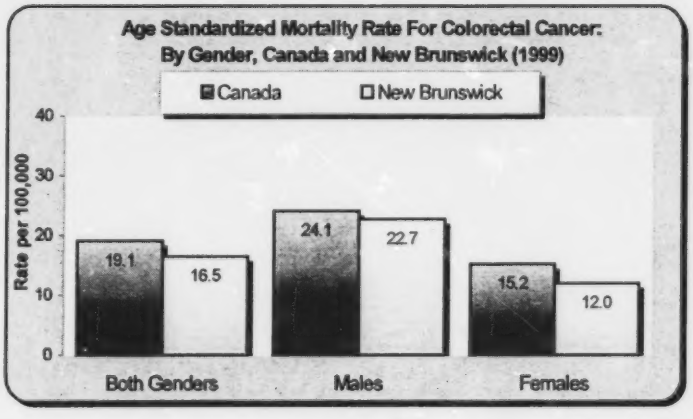
In 1999 the colorectal cancer mortality rate for Canadian males was approximately 1.6 times higher than the rate for females, and in New Brunswick the male rate was approximately 1.9 times higher than the rate for females.

In 1999, the colorectal cancer mortality rate for NB males was 6% below the national average. From 1990 to 1999, the average colorectal cancer mortality rate for NB males was roughly 17% lower than the Canadian average. The female colorectal cancer mortality rate in New Brunswick was roughly 21% lower than the Canadian average in 1999. However, over the 10 year period from 1990 to 1999, the female colorectal cancer mortality rate was, on average, only 12% below the Canadian average.

Mortality Rate for Colorectal Cancer







DESCRIPTION:

The number of deaths due to colorectal cancer, per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in a given year had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between jurisdictions that have different proportions of older and younger individuals in their population.

ANALYSIS:

The mortality rate due to colorectal cancer for Canadian males decreased from 25.7 in 1990 to 24.1 in 1999. Over the same time period the colorectal cancer mortality rate for New Brunswick males was consistently below the national average, but showed no consistent upward or downward trend.

The colorectal cancer mortality rate for females in Canada decreased from 17.7 in 1990 to 15.2 in 1999. The rate for New Brunswick females over this period was below the Canadian average in all years except 1991, and also showed a downward trend, declining from an average rate of 15.2 from 1990 to 1992 to an average rate of 13.6 from 1997 to 1999.

In 1999 the colorectal cancer mortality rate for Canadian males was approximately 1.6 times higher than the rate for females, and in New Brunswick the male rate was approximately 1.9 times higher than the rate for females.

In 1999, the colorectal cancer mortality rate for NB males was 6% below the national average. From 1990 to 1999, the average colorectal cancer mortality rate for NB males was roughly 17% lower than the Canadian average. The female colorectal cancer mortality rate in New Brunswick was roughly 21% lower than the Canadian average in 1999. However, over the 10 year period from 1990 to 1999, the female colorectal cancer mortality rate was, on average, only 12% below the Canadian average.

Table 5.1.6 Age-Standardized Mortality Rate for Colorectal Cancer

Age Standardized Mortality Rate for Colorectal Cancer
By Gender, Canada and New Brunswick (1990 - 1999)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	21.1	18.6	25.7	23.3	17.7	14.4
1991	20.4	17.8	25.1	18.7	16.8	17.1
1992	20.5	15.9	25.9	18.5	16.6	14.0
1993	20.1	17.1	24.7	17.9	16.6	16.3
1994	19.9	16.9	25.0	20.1	16.1	14.2
1995	20.0	15.8	25.1	21.7	16.2	10.9
1996	19.4	17.3	24.3	21.7	15.7	14.1
1997	18.8	16.1	23.5	19.4	15.2	13.8
1998	19.2	17.5	24.1	20.1	15.7	15.1
1999	19.1	16.5	24.1	22.7	15.2	12.0

Technical Specifications:

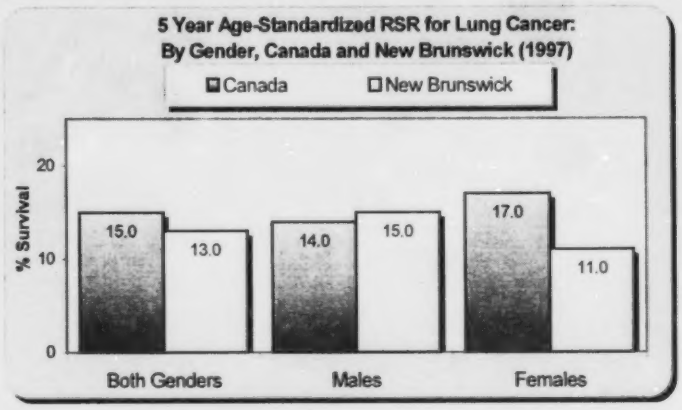
Exclusions: *Deaths of non-residents of Canada*

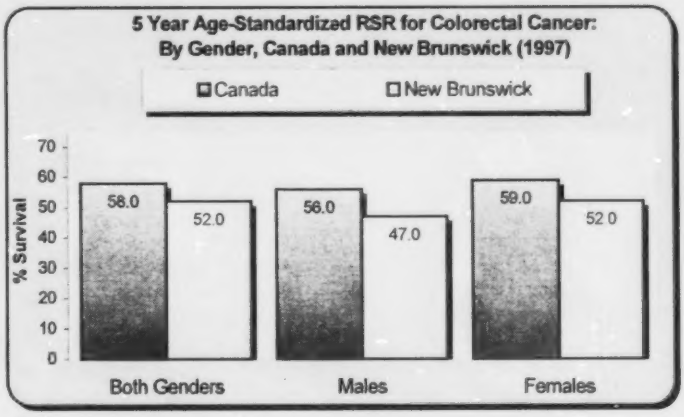
Source: *Statistics Canada, Vital Statistics, and Demography Division (census population estimates); ISQ*

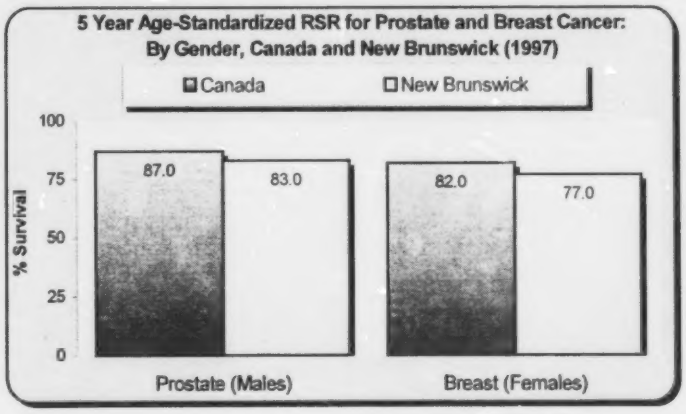
Calculation: *The age-standardized rate for each cancer site (colon/rectum (ICD-9 153-154), lung (ICD-9 162), female breast (ICD-9 174), and prostate (ICD-9 185), and for acute myocardial infarction (ICD-9 410), cerebrovascular disease (ICD-9 430-438) and the subset for all strokes (ICD-9 430-432, 434, 436) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada Vital Statistics Death Databases*

5-Year Relative Survival Rates for Selected Cancers







DESCRIPTION:

The age-standardized five year relative survival rate (RSR) is the ratio of the observed survival rate for cancer patients to the expected survival rate of the general population. The ratio may be interpreted as the percentage of cancer patients who survive for at least five years after diagnosis. Age-standardization allows for comparison among jurisdictions that have different case age distributions. Note that only 1997 data are available for these indicators.

ANALYSIS:

The chances of a male New Brunswicker surviving for five years after a diagnosis of lung cancer were slightly better than the national average for males. However, the survival rate for New Brunswick females diagnosed with lung cancer was substantially below both the rate for NB males as well as the national rate for females, in 1997.

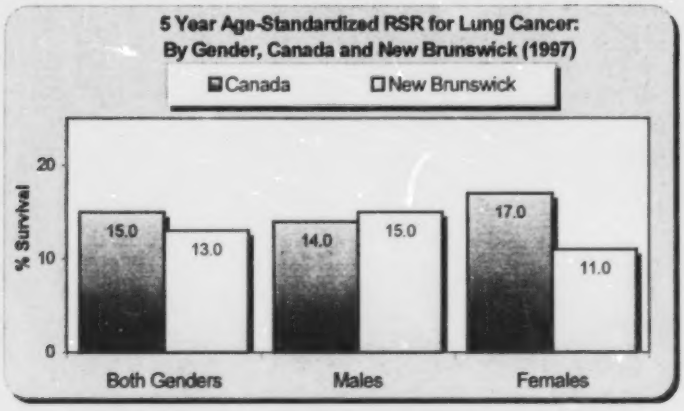
The 5-year colorectal cancer survival rates for both males and females in New Brunswick were lower than the comparable national averages. The five percentage point difference between the survival rates for NB males and NB females was similar to the gender difference observed at the national level.

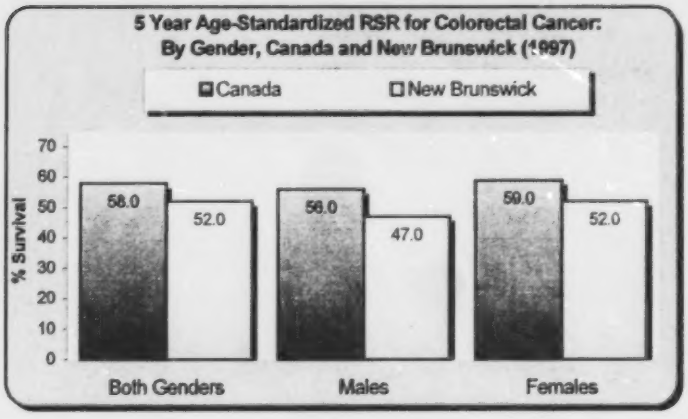
The five year survival rates for New Brunswick males diagnosed with prostate cancer and NB females diagnosed with breast cancer were four and five percentage points lower than the rate for Canadian males and females respectively.

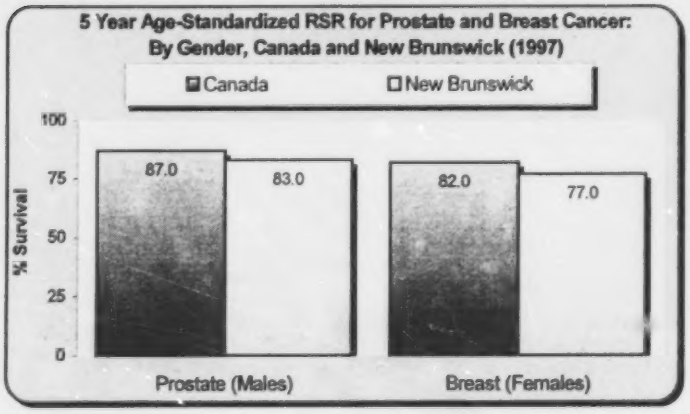
Relative survival rates for cancer are influenced by two distinct factors: (1) the success of early detection efforts and (2) the effectiveness of cancer treatment after diagnosis.

In general, the prognosis for lung cancer patients was relatively poor. The comparatively higher 5 year survival rates for colorectal, prostate and breast cancer reflect greater success in both the early detection and treatment of these forms of cancer.

5-Year Relative Survival Rates for Selected Cancers







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Relative survival rates for cancer are influenced by two distinct factors: (1) the success of early detection efforts and (2) the effectiveness of cancer treatment after diagnosis.

In general, the prognosis for lung cancer patients was relatively poor. The comparatively higher 5 year survival rates for colorectal, prostate and breast cancer reflect greater success in both the early detection and treatment of these forms of cancer.

Table 5.2 5-Year Age-Standardized Relative Survival Rates for Selected Cancers

5 Year Age-Standardized Relative Survival Rates for Selected Cancers:
By Gender, Canada and New Brunswick (1997)
Percentage Survival at Five Years

Cancer Type	Both Genders		Males		Females	
	Canada	NB	Canada	NB	Canada	NB
Lung	15.0	13.0	14.0	15.0	17.0	11.0
Colorectal	58.0	52.0	56.0	47.0	59.0	52.0
Breast					82.0	77.0
Prostate			87.0	83.0		

Technical Specifications:

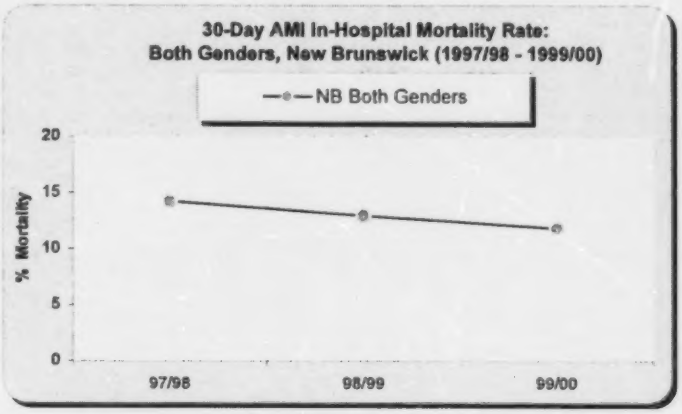
Exclusions: *Restricted to cases diagnosed in 1992 that were the first primary cancer for the individual. Subjects with an unknown year of birth or death; subjects younger than 15 or older than 99 years of age at diagnosis; subjects diagnosed through autopsy or death certificate only*

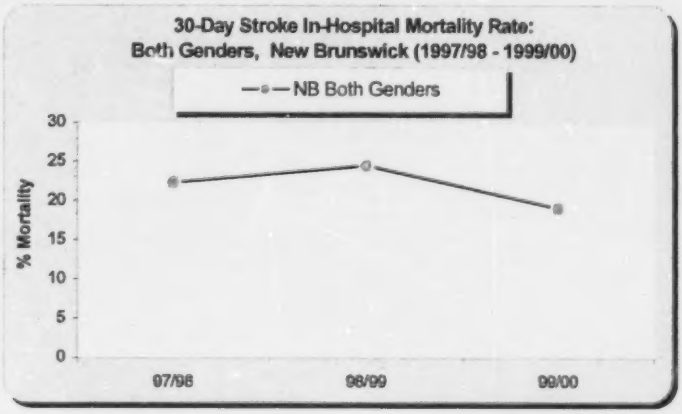
Source: *Statistics Canada, Canadian Cancer Registry, Canadian National Mortality Data Base, and Canadian and provincial life tables (1990-1992); ISQ*

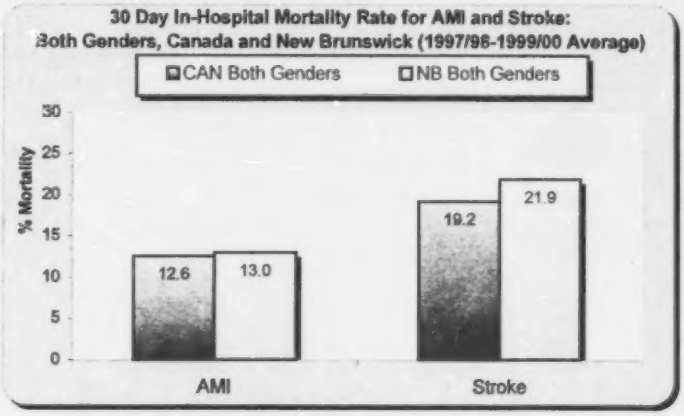
Calculation: *The maximum likelihood method of Estève et al . (1990)*
Age-standardized rates for a given cancer were calculated by weighting age-specific rates to the age distribution of all eligible patients who were diagnosed with that cancer.

References: *Ellison LF, Gibbons L, and the Canadian Cancer Survival Analysis Group. Five-year relative survival from prostate, breast, colorectal and lung cancer.* Health Reports *2001: 13(1), 23-34.*

30-Day Mortality Rate for Acute Myocardial Infarction and Stroke







DESCRIPTION:

The percentage of patients who die from any cause within 30 days of having a first heart attack (acute myocardial infarction - AMI) or stroke. Note that the phrase "in hospital" indicates that this indicator is based on hospital records (i.e., it does not capture deaths which occur outside of hospital). However the vast majority of heart attack and stroke deaths occur in hospital. To allow for comparisons among different jurisdictions, a statistical (risk adjustment) model was used to adjust for differences in age, sex and co-morbidity.

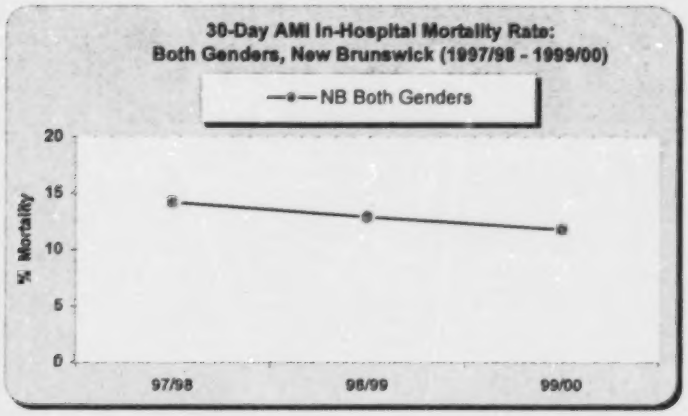
ANALYSIS:

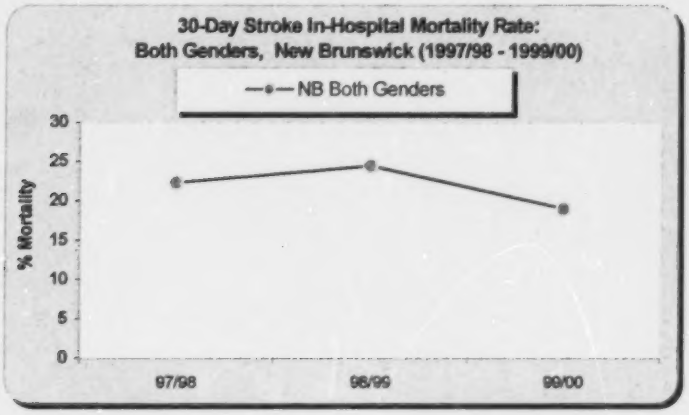
Between 1997/98 and 1999/00 there was a steady decline in the percentage of New Brunswickers who died within 30 days of being admitted to hospital with a first heart attack. However, the average 30-day AMI in-hospital mortality rate for New Brunswick during the three year period from 97/98 to 99/00 was slightly higher than the average Canadian* rate for the same time period.

New Brunswick's 30-day stroke in-hospital mortality rate showed a small overall decline of approximately 3 percentage points from 1997/98 to 1999/00. The average 30-day stroke in-hospital mortality rate for New Brunswick during the three year period from 97/98 to 99/00 was higher than the average Canadian* rate for the same time period.

The 30-day in-hospital mortality rate provides an important measure of variations in mortality that may be due to factors such as emergency treatments, quality of care in hospitals, primary care and secondary prevention. Declining 30-day in-hospital mortality rates may reflect advances in secondary prevention and treatment of AMI and stroke.

30-Day Mortality Rate for Acute Myocardial Infarction and Stroke





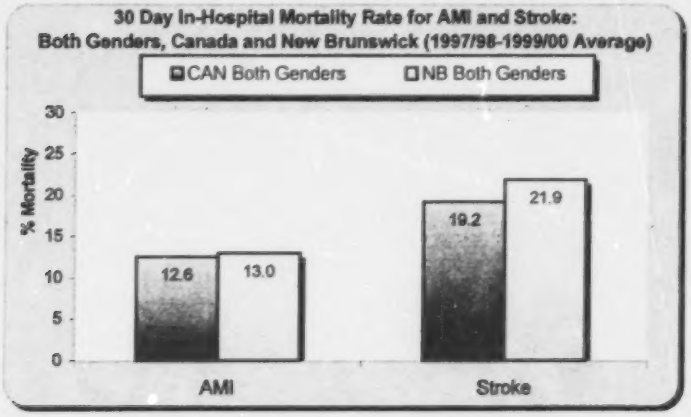


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Table 5.3 30-Day Acute Myocardial Infarction and Stroke in-Hospital Mortality Rates:

30-Day AMI and Stroke In-Hospital Mortality Rate:
Both Genders, Canada and New Brunswick (1997/98 - 1999/00)
Percentage Mortality at 30 Days

	AMI		Stroke	
Year	Canada*	NB	Canada*	NB
1997/1998		14.2		22.3
1998/1999		12.9		24.5
1999/2000		11.8		19.0
1997/1998 - 1999/2000	12.6	13.0	19.2	21.9

* Excludes Quebec, British Columbia, Yukon, NWT and Nunavut. No single year data available.

Technical Specifications:

30-Day Acute Myocardial Infarction In-Hospital Mortality Rate

Exclusions: *patients less than 20 years of age or greater than 105 years of age; patients discharged alive with a total length of stay less than 3 days; transfers from another acute care facility; records where AMI is coded as a complication; records containing an invalid Health Card number; records which are out of jurisdiction; Patients who had an AMI admission within one year prior to the date of the index episode.*

Numerator: *number of deaths from all causes that occur in-hospital within 30 days of first admission for an AMI among patients who meet the conditions specified for the denominator.*

Denominator: *number of patients who were admitted to an acute care hospital in a given period with a most responsible diagnosis of AMI and who had not been admitted to an acute care hospital with the same most responsible diagnosis within one year prior to the index admission*

30-Day Stroke In-Hospital Mortality Rate

Exclusions: *patients less than 20 years of age or greater than 105 years of age; records where Stroke is coded as a complication; records containing an invalid Health Card number; records which are out of jurisdiction; Patients who had a Stroke admission within one year prior to the date of the index episode.*

Numerator: *number of deaths from all causes that occur in-hospital within 30 days of first admission for a Stroke among patients who meet the conditions specified for the denominator.*

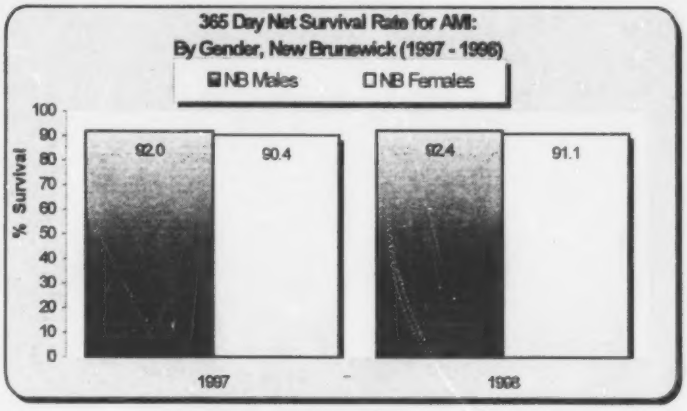
Denominator: *number of patients with a diagnosis of stroke admitted to acute care hospitals in the defined time period, who had no previous admission(s) to an acute care hospital for stroke in the year prior to the index admission*

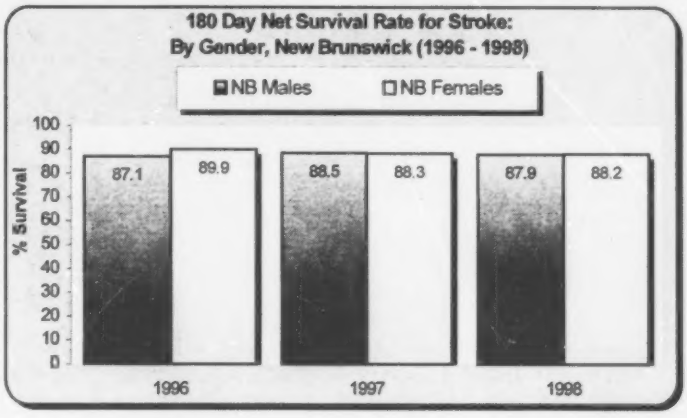
Both Indicators

Calculation(s): *A logistic regression model is fitted with age, gender, and select comorbid conditions as independent variables. Coefficients derived from the logistic model are used to calculate the probability of in-hospital death following AMI for each case (episode). The expected in-hospital death rate of a province is the sum of these case probabilities divided by the total number of cases. The risk adjusted mortality rate (RAMR) is calculated by dividing the observed in-hospital death rate of each province by the expected in-hospital death rate of the province and multiplying by the average in-hospital death rate. A 95 percent confidence interval for the RAMR is also calculated.*

Source: *Hospital Morbidity Discharge Abstract Database, CIHI*

Net Survival Rate for Acute Myocardial Infarction and Stroke





DESCRIPTION:

The proportion (%) of acute myocardial infarction (AMI / heart attack) or stroke victims who survive for the specified time period after their first admission to hospital with an AMI or stroke. These indicators measure mortality due to AMI or stroke only (i.e., individuals who die within the specified time period from causes unrelated to AMI or stroke are not included). The rates have been age-standardized to allow for comparison among years that may have different case age distributions. Note that comparable Canadian data are not available for these indicators.

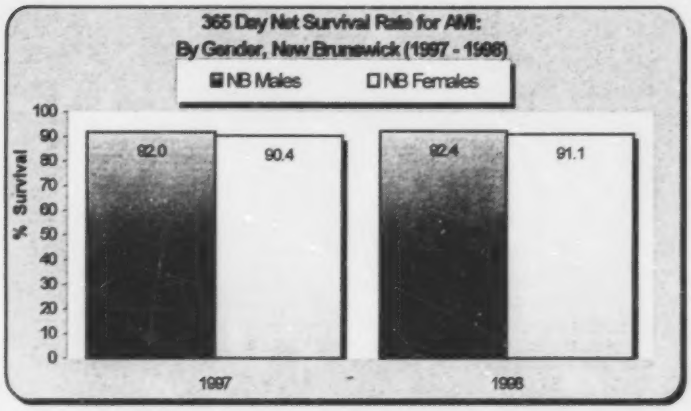
ANALYSIS:

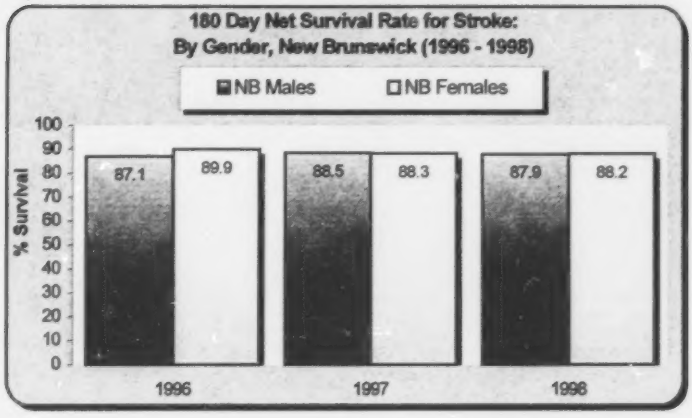
Between 1997 and 1998 there was no substantial change in the percentage of males and females in New Brunswick who survived for at least one year after a first heart attack. On average, close to 92% of New Brunswick patients survived for at least one year after their first admission to hospital with an AMI. The one-year survival rate for males was slightly higher than the rate for females, although this gap narrowed from 1997 to 1998.

Between 1996 and 1998, there was no substantial change in the percentage of New Brunswick males and females who survive for at least 180 days after a first stroke. On average, roughly 88% of New Brunswickers who suffered a first stroke in 1998 survived for at least 180 days. With the exception of 1996, there was no appreciable difference in the 180 day stroke survival rate for males and females.

The 365 day survival rate for AMI and the 180 day survival rate for stroke provide an indication of the effectiveness of treatment during initial hospitalization and the quality of continuing hospital and community-based care after the initial hospitalization.

Net Survival Rate for Acute Myocardial Infarction and Stroke





DESCRIPTION:

The proportion (%) of acute myocardial infarction (AMI / heart attack) or stroke victims who survive for the specified time period after their first admission to hospital with an AMI or stroke. These indicators measure mortality due to AMI or stroke only (i.e., individuals who die within the specified time period from causes unrelated to AMI or stroke are not included). The rates have been age-standardized to allow for comparison among years that may have different case age distributions. Note that comparable Canadian data are not available for these indicators.

ANALYSIS:

Between 1997 and 1998 there was no substantial change in the percentage of males and females in New Brunswick who survived for at least one year after a first heart attack. On average, close to 92% of New Brunswick patients survived for at least one year after their first admission to hospital with an AMI. The one-year survival rate for males was slightly higher than the rate for females, although this gap narrowed from 1997 to 1998.

Between 1996 and 1998, there was no substantial change in the percentage of New Brunswick males and females who survive for at least 180 days after a first stroke. On average, roughly 88% of New Brunswickers who suffered a first stroke in 1998 survived for at least 180 days. With the exception of 1996, there was no appreciable difference in the 180 day stroke survival rate for males and females.

The 365 day survival rate for AMI and the 180 day survival rate for stroke provide an indication of the effectiveness of treatment during initial hospitalization and the quality of continuing hospital and community-based care after the initial hospitalization.

Table 5.4 365 Day Net Survival Rate (NSR) for Acute Myocardial Infarction and 180 Day NSR for All Stroke

365 Day Net Survival Rate for Acute Myocardial Infarction (AMI):
By Gender, New Brunswick (1997 - 1998)
Percentage Survival to 365 Days

Year	Both Genders	Males	Females
1997	91.7	92.0	90.4
1998	91.8	92.4	91.1

180 Day Net Survival Rate for All Stroke:
By Gender, New Brunswick (1996 - 1998)
Percentage Survival to 180 Days

Year	Both Genders	Males	Females
1996	88.4	87.1	89.9
1997	88.6	88.5	88.3
1998	88.2	87.9	88.2

Technical Specifications:

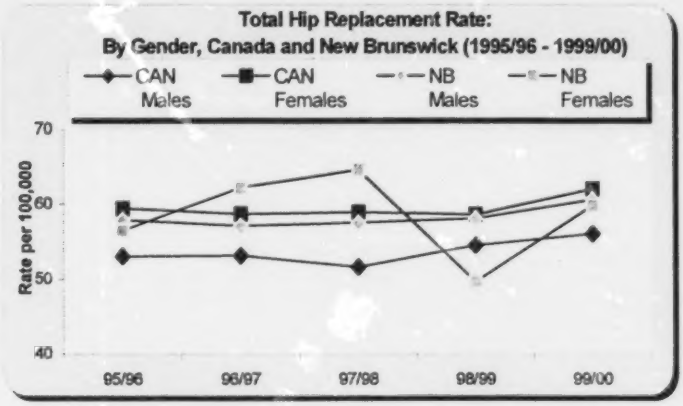
Exclusions: *records with invalid, missing, or un-linkable health insurance numbers; records with severe errors or invalid data that could not be reasonably imputed; provinces and territories with insufficient linkable incident cases of AMI and stroke; admissions in some types of hospitals in some jurisdictions; persons whose initial hospitalization episode did not occur in the calendar year of interest; persons suffering any prior AMI within three years or any stroke within one year of the initial hospitalization episode; persons whose initial hospitalization episode (not stay) for AMI is less than two days; persons under 20 years of age (under 45 years of age for age-standardized estimates); persons who were not diagnosed with the disease of interest in the first stay of an episode or whose diagnosis in the first stay was of a type that did not affect the length of stay.*

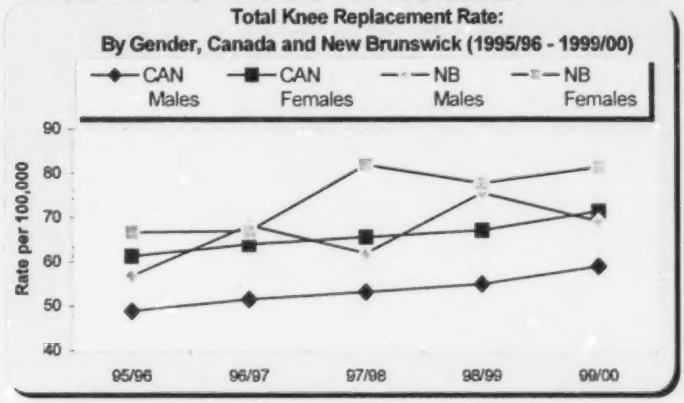
Sources: *Jurisdictional administrative databases with sufficient linkage information, Discharge Abstract Database / Hospital Morbidity database (CIHI); POI database, Vital Statistics files, and life tables (Statistics Canada); ISQ.*

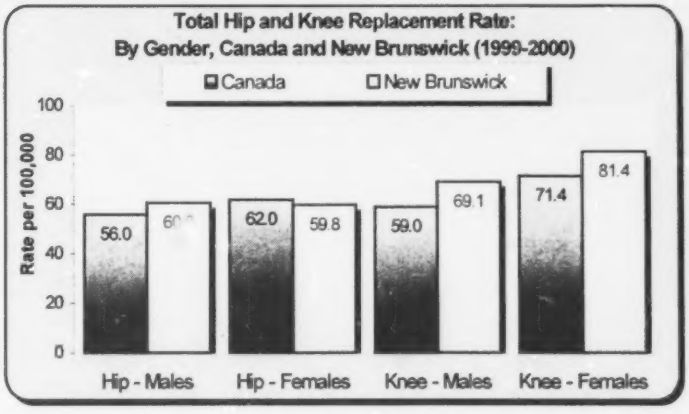
***Note**: At present, Statistics Canada has data to estimate these rates with good quality for only Alberta, British Columbia, New Brunswick and Nova Scotia.*
Rates are age-standardized using the direct method, and the 1991 Canadian Census of Population structure. Due to differences between the age-sex structure of the Census population and the age-sex structure of the population of in-patients diagnosed with stroke or AMI, overall rates may be slightly inconsistent with sex-specific rates. Confidence intervals must always be considered when making comparisons, and the confidence intervals have been adjusted to account for the additional variance introduced by age-standardization.

Calculation: *AMI – ICD9 410; all Stroke – ICD9 430-432, 434, 436;*
Survival rates are calculated using the Kaplan-Meier method, with persons whose underlying cause of death was not the disease of interest censored on the date of death. Date of incidence is assumed to be the date of admission for the initial hospitalization episode for the disease of interest. Subsequent episodes are ignored. The standard error is calculated using Greenwood's formula. Age-standardization is done by the direct method to the standard 1991 population, with the Greenwood standard error inflated to account for standardization.

Total Hip and Knee Replacement Rate







DESCRIPTION:

Number of people (age standardized per 100,000 population) who underwent hip or knee replacement surgery as an in-patient in an acute care hospital in a given year.

ANALYSIS:

Between 1995/96 and 1999/2000 there was a small overall increase in the hip replacement rate for males and females, both at the national and provincial levels. The hip replacement rate for NB males was considerably higher than the national average for males in all years between 95/96 and 99/00. The hip replacement rate for NB females varied somewhat from year to year, but on average over the 95/96 - 99/00 period was very similar to the average rate for Canadian females over the same time period.

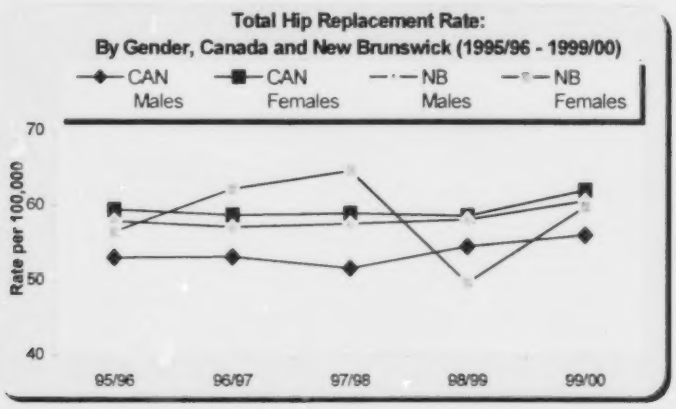
From 1995/96 to 1999/00 there was a upward trend in the knee replacement rate for males and females at both the national and provincial level. Between 1995/96 and 1999/00 the rate for Canadian and NB males increased by roughly 21%. Over the same time period, the rate for Canadian females rose by approximately 17%, while the rate for NB females increased by about 22%.

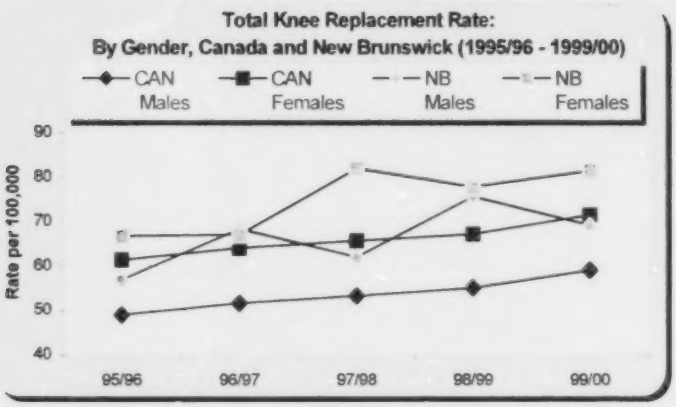
In 1999/00 the hip replacement rates in NB males and females were essentially the same, while at the national level, the rate for females was slightly higher than the rate for males. In 1999/00, NB males had a slightly higher hip replacement rate than Canadian males, while the rate for NB females was slightly lower than the rate for Canadian females.

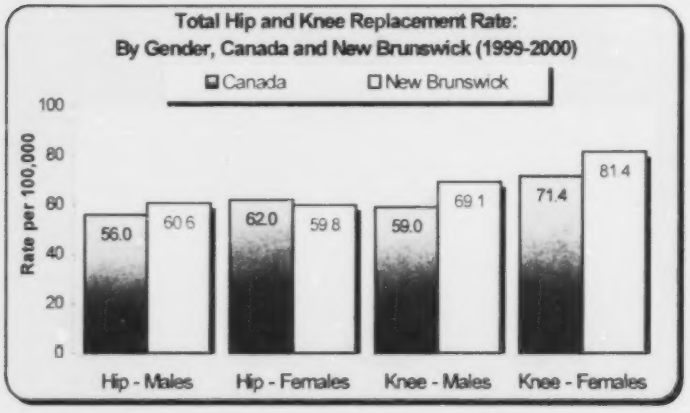
At both the national and provincial level, knee replacement rates were higher in females than in males in 1999/00. The rate for New Brunswick females was considerably higher than the rate for NB males and approximately 14% higher than the rate for Canadian females. The knee replacement rate for NB males was roughly 17% higher than the national average for males in 1999/00.

Hip and knee replacements have been demonstrated to substantially improve health related quality of life, particularly in the elderly.

Total Hip and Knee Replacement Rate







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Number of people (age standardized per 100,000 population) who underwent hip or knee replacement surgery as an in-patient in an acute care hospital in a given year.

ANALYSIS:

Between 1995/96 and 1999/2000 there was a small overall increase in the hip replacement rate for males and females, both at the national and provincial levels. The hip replacement rate for NB males was considerably higher than the national average for males in all years between 95/96 and 99/00. The hip replacement rate for NB females varied somewhat from year to year, but on average over the 95/96 - 99/00 period was very similar to the average rate for Canadian females over the same time period.

From 1995/96 to 1999/00 there was a upward trend in the knee replacement rate for males and females at both the national and provincial level. Between 1995/96 and 1999/00 the rate for Canadian and NB males increased by roughly 21%. Over the same time period, the rate for Canadian females rose by approximately 17%, while the rate for NB females increased by about 22%.

In 1999/00 the hip replacement rates in NB males and females were essentially the same, while at the national level, the rate for females was slightly higher than the rate for males. In 1999/00, NB males had a slightly higher hip replacement rate than Canadian males, while the rate for NB females was slightly lower than the rate for Canadian females.

At both the national and provincial level, knee replacement rates were higher in females than in males in 1999/00. The rate for New Brunswick females was considerably higher than the rate for NB males and approximately 14% higher than the rate for Canadian females. The knee replacement rate for NB males was roughly 17% higher than the national average for males in 1999/00.

Hip and knee replacements have been demonstrated to substantially improve health related quality of life, particularly in the elderly.

Table 6.1 Total Hip Replacement Rate

Total Hip Replacement Rate:
By Gender, Canada and New Brunswick (1995/96 - 1999/00)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1995/1996	56.8	57.7	53.0	57.9	59.4	56.5
1996/1997	56.3	60.2	53.1	57.1	58.7	62.2
1997/1998	55.8	61.8	51.6	57.5	58.9	64.6
1998/1999	57.0	53.9	54.5	58.1	58.6	49.6
1999/2000	59.5	60.5	56.0	60.6	62.0	59.8

Table 6.2 Total Knee Replacement Rate

Total Knee Replacement Rate:
By Gender, Canada and New Brunswick (1995/96 - 1999/00)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1995/1996	55.6	62.8	48.9	56.8	61.3	66.6
1996/1997	58.1	67.3	51.5	68.3	63.9	67.0
1997/1998	59.9	72.7	53.2	61.9	65.6	81.9
1998/1999	61.4	76.8	55.0	75.6	67.1	77.7
1999/2000	65.6	75.8	59.0	69.1	71.4	81.4

Technical Specifications:

Exclusions: *Patients not treated as inpatients in acute care hospitals and those who received their surgery prior to admission.*

Numerator: *number in-patient separations from acute care hospitals (discharges, sign-outs, and deaths) where the patient received a total hip or total knee replacement during the year, by age and gender categories*

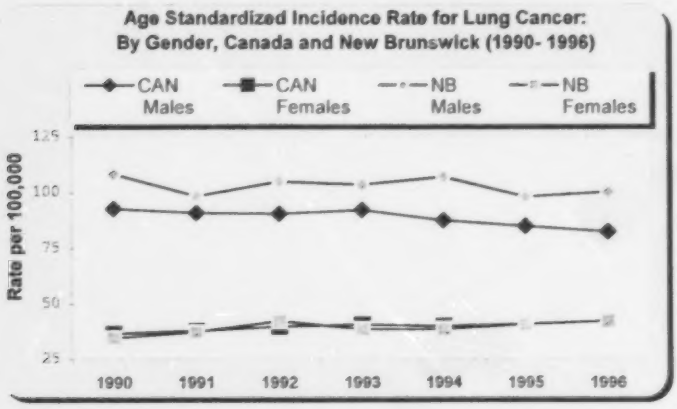
Denominator: *population by age and gender categories, either from census or census estimates, for the year*

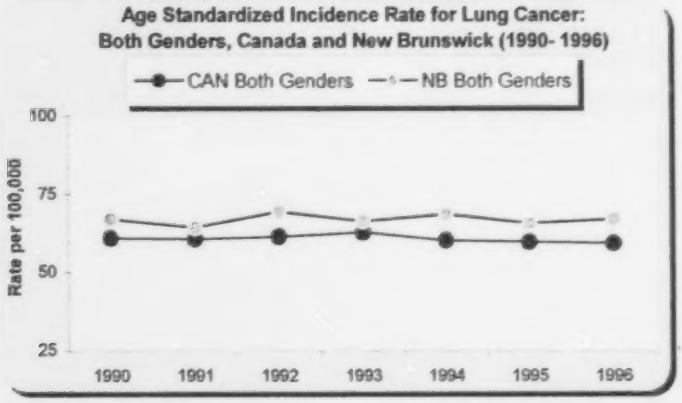
Sources: *Hospital Morbidity Database, CIHI Canada Census, Statistics Canada, ISQ*

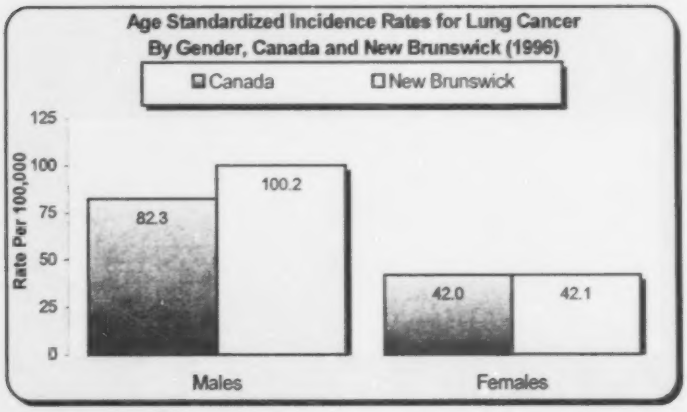
Calculation(s): *Standardized rates are age adjusted using a direct method of standardization based on the July 1st, 1991 Canadian population as follows:*

Age	Pop.	Age	Pop.
<1	403,061	45-49	1,674,153
1-4	1,550,285	50-54	1,339,902
5-9	1,953,045	55-59	1,238,441
10-14	1,913,115	60-64	1,190,217
15-19	1,926,090	65-69	1,084,588
20-24	2,109,452	70-74	834,024
25-29	2,529,239	75-79	622,221
30-34	2,598,289	80-84	382,303
35-39	2,344,872	85-89	192,410
40-44	2,138,891	90+	95,467

Incidence Rate for Lung Cancer







DESCRIPTION:

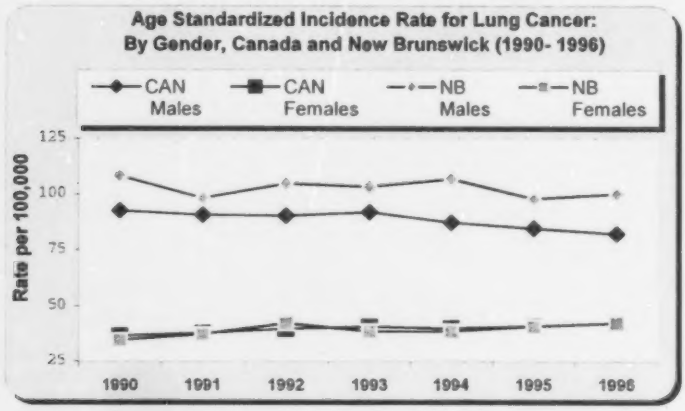
The number of newly diagnosed primary lung cancer cases in a given year per 100,000 population that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population. The age-standardized incidence rate measures the appearance of newly diagnosed cases.

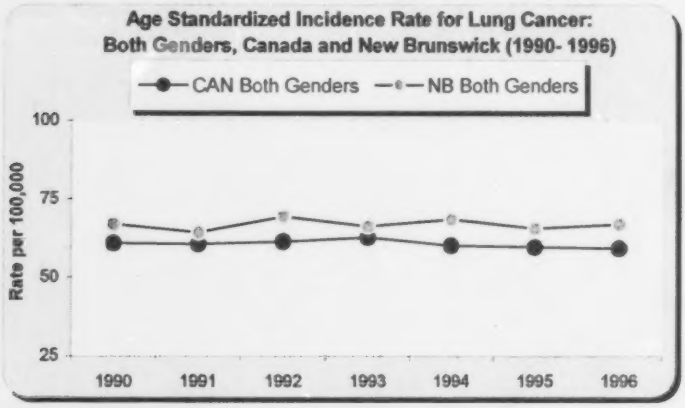
ANALYSIS:

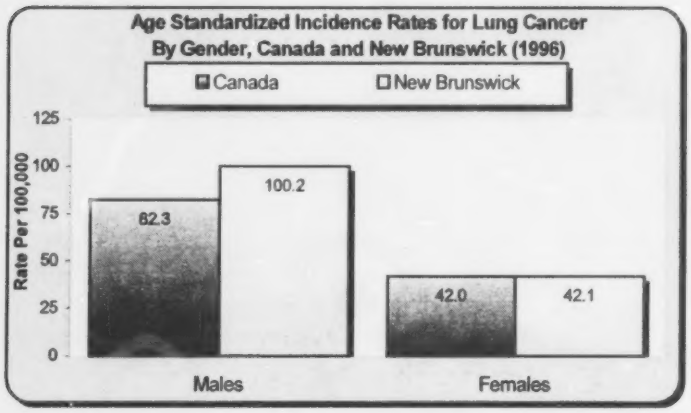
The incidence rate of lung cancer in Canadian males declined by roughly 11% during the period from 1990 to 1996. In New Brunswick males the lung cancer incidence rate declined by approximately 7% during this period. The lung cancer incidence rate increased by approximately 15% in Canadian females and 22% in New Brunswick females between 1990 and 1996. These opposing trends in the two genders resulted in little overall change in the total lung cancer incidence rate in either New Brunswick or Canada as a whole.

Males have typically experience a much higher lung cancer incidence rate than females, although this gender gap has narrowed in the past decade. In 1996, Canadian females were 49% less likely to be diagnosed with lung cancer than were Canadian males. New Brunswick females were 58% less likely to be diagnosed with lung cancer than were NB males. This larger than average gender gap in New Brunswick is due to the fact that the incidence rate for NB males was 22% higher than that for Canadian males in 1996, while the rate for NB females was the same as the female national average.

Incidence Rate for Lung Cancer







DESCRIPTION:

The number of newly diagnosed primary lung cancer cases in a given year per 100,000 population that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population. The age-standardized incidence rate measures the appearance of newly diagnosed cases.

ANALYSIS:

The incidence rate of lung cancer in Canadian males declined by roughly 11% during the period from 1990 to 1996. In New Brunswick males the lung cancer incidence rate declined by approximately 7% during this period. The lung cancer incidence rate increased by approximately 15% in Canadian females and 22% in New Brunswick females between 1990 and 1996. These opposing trends in the two genders resulted in little overall change in the total lung cancer incidence rate in either New Brunswick or Canada as a whole.

Males have typically experience a much higher lung cancer incidence rate than females, although this gender gap has narrowed in the past decade. In 1996, Canadian females were 49% less likely to be diagnosed with lung cancer than were Canadian males. New Brunswick females were 58% less likely to be diagnosed with lung cancer than were NB males. This larger than average gender gap in New Brunswick is due to the fact that the incidence rate for NB males was 22% higher than that for Canadian males in 1996, while the rate for NB females was the same as the female national average.

Table 7.1.1 Age Standardized Incidence Rate for Lung Cancer

Age Standardized Incidence Rate for Lung Cancer
By Gender, Canada and New Brunswick (1990 - 1996)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	60.9	66.9	92.7	108.2	36.5	34.5
1991	60.6	64.3	90.7	98.2	37.7	37.2
1992	61.4	69.4	90.3	104.8	39.6	42.1
1993	62.7	66.3	91.9	103.3	40.6	38.5
1994	60.2	68.6	87.3	107.0	39.8	38.5
1995	59.7	65.6	84.8	97.9	40.8	40.7
1996	59.2	66.9	82.3	100.2	42.0	42.1

Technical Specifications:

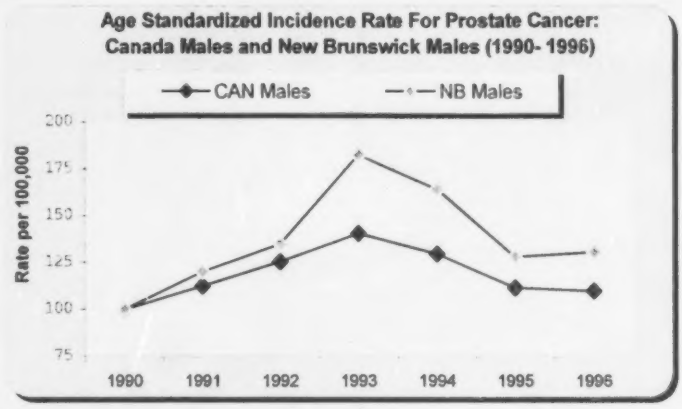
Exclusions: *Non-residents of Canada*

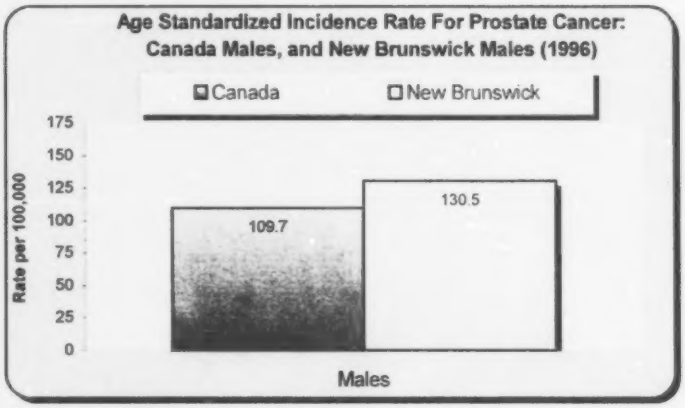
Source: *Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates); ISQ*

Calculation: *The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada – Cancer Incidence (CCR Shelf tables – IARC rules)*

Incidence Rate for Prostate Cancer





DESCRIPTION:

The number of newly diagnosed primary prostate cancer cases in a given year per 100,000 male population that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population. The age-standardized incidence rate measures the appearance of newly diagnosed cases.

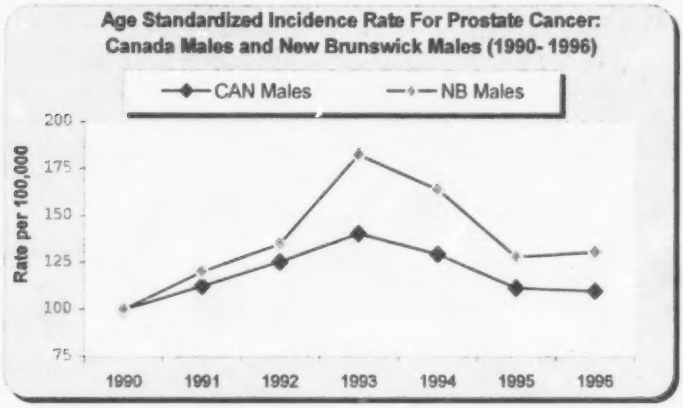
ANALYSIS:

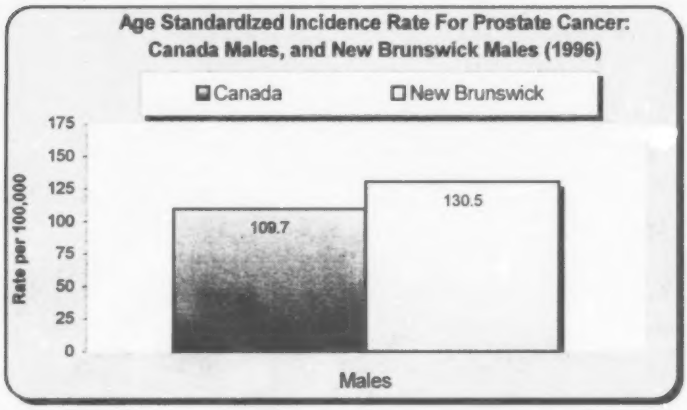
Between 1990 and 1993 there was a considerable increase in the incidence of prostate cancer in both Canada and New Brunswick. After 1993 the rates declined somewhat but remained higher than they had been at the beginning of the decade. In 1996 the incidence of prostate cancer in Canadian males was roughly 10% higher than it had been in 1990. In New Brunswick males, the incidence rate in 1996 was approximately 30% higher than it had been in 1990.

The prostate cancer incidence rate in New Brunswick was consistently above the national average from 1990 to 1996. In 1996, the New Brunswick rate was approximately 19% higher than the Canadian average

Numerous factors including heredity, lifestyle and occupation have been linked to the risk of developing prostate cancer. In addition, differences between jursdictions in the observed incidence of prostate cancer may be influenced by differences in early detection and screening practices. Because prostate cancer typically occurs in older males, the incidence of this disease can be expected to climb as the average life span of Canadian males increases.

Incidence Rate for Prostate Cancer





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ANALYSIS:

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The prostate cancer incidence rate in New Brunswick was consistently above the national average from 1990 to 1996. In 1996, the New Brunswick rate was approximately 19% higher than the Canadian average

Numerous factors including heredity, lifestyle and occupation have been linked to the risk of developing prostate cancer. In addition, differences between jursdictions in the observed incidence of prostate cancer may be influenced by differences in early detection and screening practices. Because prostate cancer typically occurs in older males, the incidence of this disease can be expected to climb as the average life span of Canadian males increases.

Table 7.1.2 Age Standardized Incidence Rate for Prostate Cancer

Age Standardized Incidence Rate for Prostate Cancer
Canada Males and New Brunswick Males (1990 - 1996)
Rate per 100,000 Population

	Males	
Year	**Canada**	**NB**
1990	99.8	100.1
1991	112.3	120.2
1992	125.3	134.7
1993	140.4	182.5
1994	129.4	163.9
1995	111.3	128.0
1996	109.7	130.5

Technical Specifications:

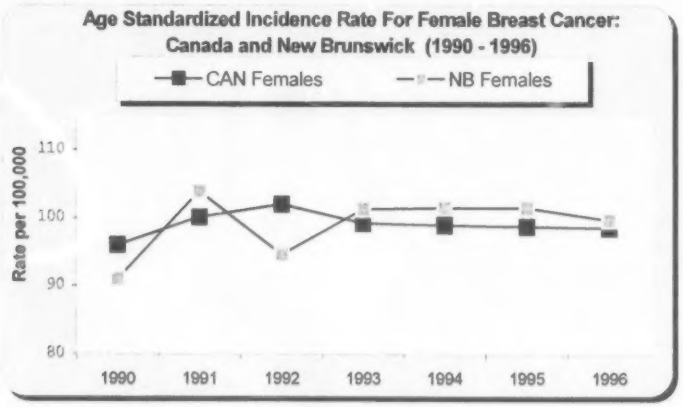
Exclusions: *Non-residents of Canada*

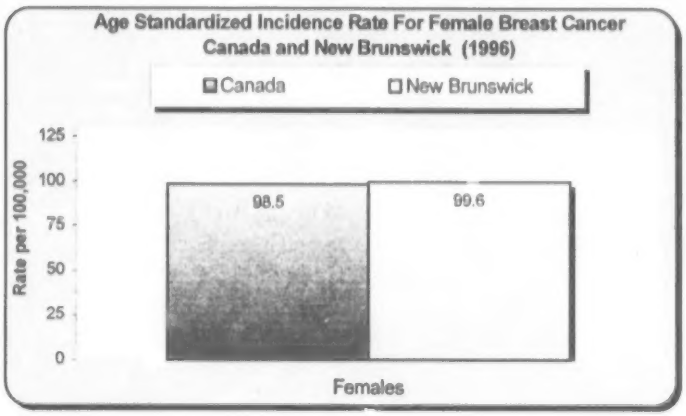
Source: *Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates); ISQ*

Calculation: *The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada – Cancer Incidence (CCR Shelf tables – IARC rules)*

Incidence Rate for Breast Cancer





DESCRIPTION:

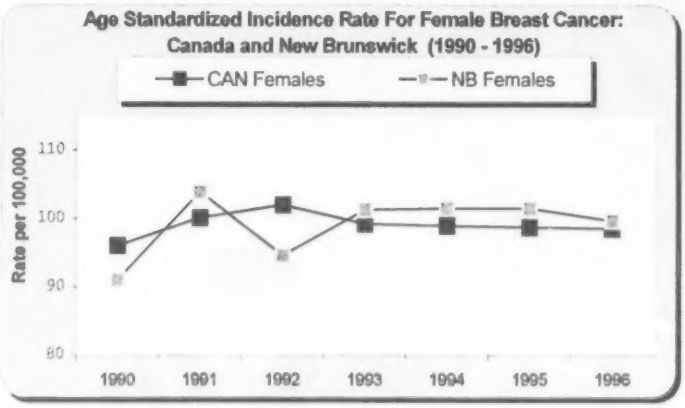
The number of newly diagnosed primary breast cancer cases in a given year per 100,000 female population that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population. The age-standardized incidence rate measures the appearance of newly diagnosed cases.

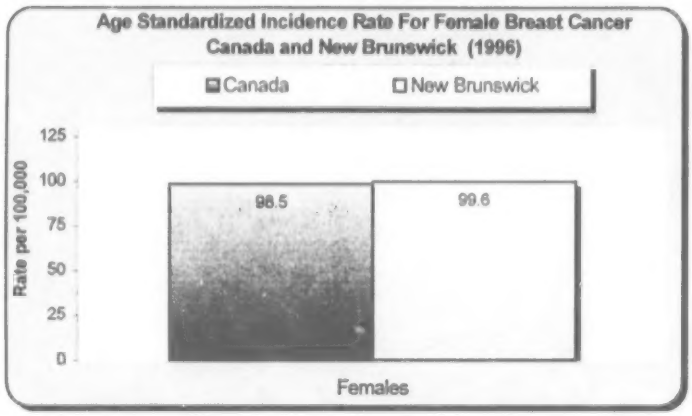
ANALYSIS:

Between 1990 and 1996 there was some fluctuation in the incidence rate for breast cancer, but no substantial upward or downward trend in either New Brunswick or Canada as a whole. From 1993 to 1996, New Brunswick's breast cancer incidence rate was consistently higher than the Canadian average. However in 1996, there was less than a 2% difference between the Province's rate and the national average.

A variety of factors, including heredity and lifestyle have been linked to the risk of developing breast cancer. The risk of developing breast cancer also increases with age. Therefore, the incidence of this disease is expected to trend upward as the population ages.

Incidence Rate for Breast Cancer





DESCRIPTION:

The number of newly diagnosed primary breast cancer cases in a given year per 100,000 female population that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population. The age-standardized incidence rate measures the appearance of newly diagnosed cases.

ANALYSIS:

Between 1990 and 1996 there was some fluctuation in the incidence rate for breast cancer, but no substantial upward or downward trend in either New Brunswick or Canada as a whole. From 1993 to 1996, New Brunswick's breast cancer incidence rate was consistently higher than the Canadian average. However in 1996, there was less than a 2% difference between the Province's rate and the national average.

A variety of factors, including heredity and lifestyle have been linked to the risk of developing breast cancer. The risk of developing breast cancer also increases with age. Therefore, the incidence of this disease is expected to trend upward as the population ages.

Table 2.1.3 Age Standardized Incidence Rate for Female Breast Cancer

Age Standardized Incidence Rate for Female Breast Cancer
Canada and New Brunswick (1990 - 1996)
Rate per 100,000 Population

	Females	
Year	**Canada**	**NB**
1990	96.0	91.0
1991	100.1	103.9
1992	102.0	94.6
1993	99.2	101.3
1994	98.9	101.5
1995	98.7	101.5
1996	98.5	99.6

Technical Specifications:

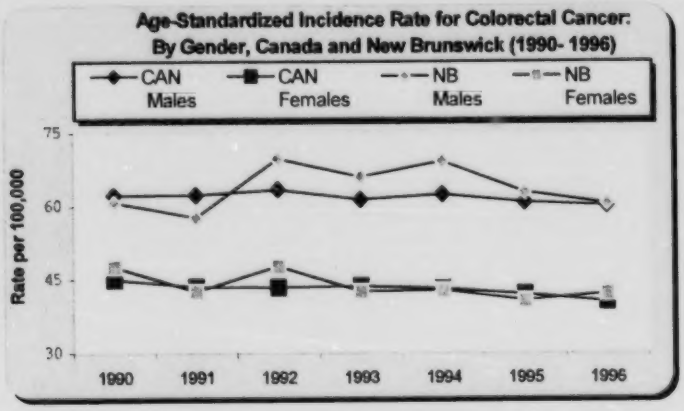
Exclusions: *Non-residents of Canada*

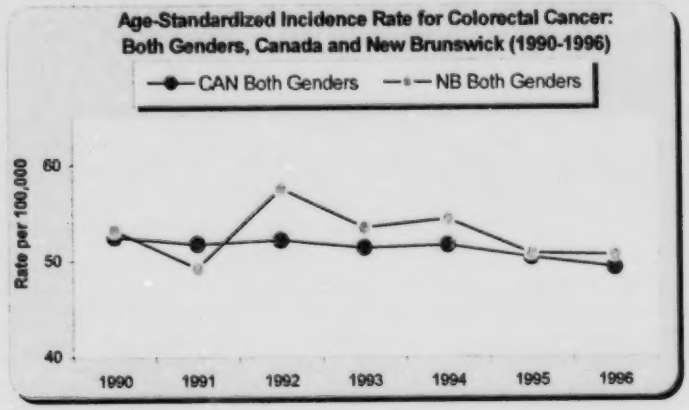
Source: *Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates); ISQ*

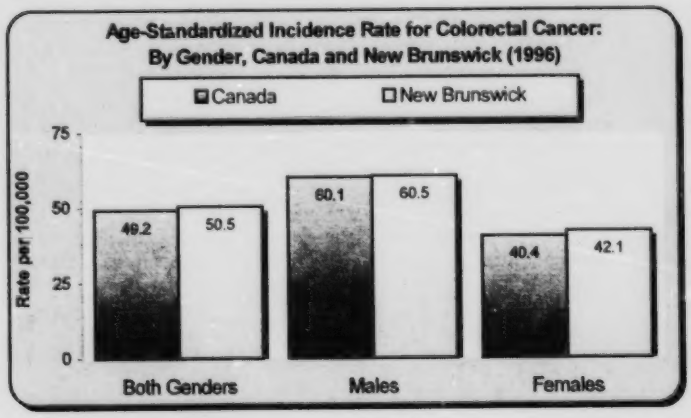
Calculation: *The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada – Cancer Incidence (CCR Shelf tables – IARC rules)*

Incidence Rate for Colorectal Cancer







DESCRIPTION

The number of newly diagnosed primary colorectal cancer cases in a given year per 100,000 population that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population. The age-standardized incidence rate measures the appearance of newly diagnosed cases.

ANALYSIS:

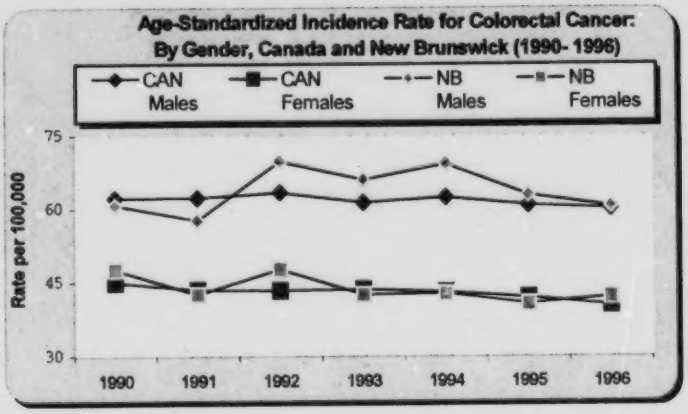
The incidence rate of colorectal cancer in Canadian males showed a slight decline from a rate of 62.2 per 100,000 in 1990 to 60.1 in 1996. In New Brunswick males, there was no consistent upward or downward trend in the incidence of colorectal cancer during the period from 1990 to 1996. During this period, there was a downward trend in the incidence of colorectal cancer in females, both in New Brunswick and Canada as a whole. Between 1990 and 1996 the rate for NB females declined by 11.6 %, while the national rate for females declined by 10.2%.

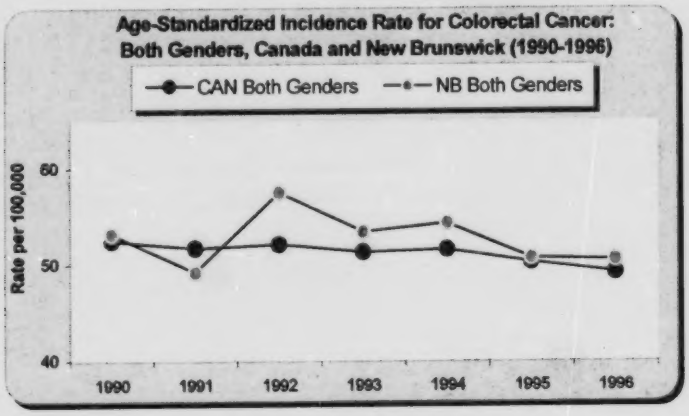
With both genders combined, there was approximately a 6% decrease in the national colorectal cancer incidence rate between 1990 and 1996. In New Brunswick, the rate for both genders combined decreased by roughly 5% between 1990 and 1996. The incidence rate for colorectal cancer has historically been higher in males than in females and this trend was consistent at both the provincial and national levels.

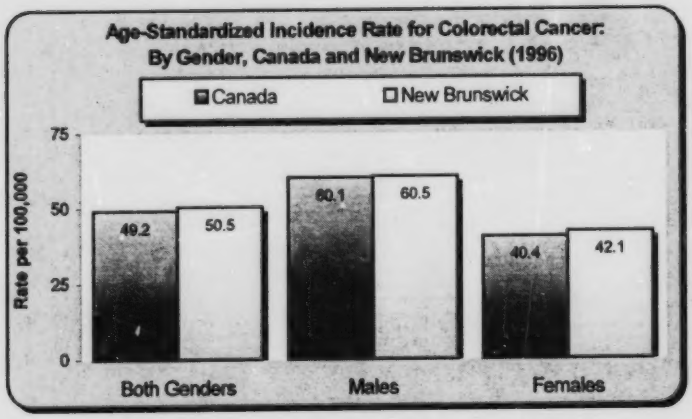
With the exception of the male rate between 1992 and 1994, New Brunswick's colorectal cancer rates have generally been similar to the national average. In 1996 the female rate in New Brunswick was slightly higher than the national average, while there was virtually no difference in the male rates.

Declines in colorectal cancer incidence are thought to be linked to improvements in diet and lifestyle.

Incidence Rate for Colorectal Cancer







DESCRIPTION

The number of newly diagnosed primary colorectal cancer cases in a given year per 100,000 population that would have occurred in the standard population if the actual age-specific rates observed in New Brunswick had occurred in the standard population. Rates are age-standardized to the 1991 Canadian population. Age-standardization allows for comparison of rates between years and among jurisdictions that have different proportions of older and younger individuals in their population. The age-standardized incidence rate measures the appearance of newly diagnosed cases.

ANALYSIS:

The incidence rate of colorectal cancer in Canadian males showed a slight decline from a rate of 62.2 per 100,000 in 1990 to 60.1 in 1996. In New Brunswick males, there was no consistent upward or downward trend in the incidence of colorectal cancer during the period from 1990 to 1996. During this period, there was a downward trend in the incidence of colorectal cancer in females, both in New Brunswick and Canada as a whole. Between 1990 and 1996 the rate for NB females declined by 11.6 %, while the national rate for females declined by 10.2%.

With both genders combined, there was approximately a 6% decrease in the national colorectal cancer incidence rate between 1990 and 1996. In New Brunswick, the rate for both genders combined decreased by roughly 5% between 1990 and 1996. The incidence rate for colorectal cancer has historically been higher in males than in females and this trend was consistent at both the provincial and national levels.

With the exception of the male rate between 1992 and 1994, New Brunswick's colorectal cancer rates have generally been similar to the national average. In 1996 the female rate in New Brunswick was slightly higher than the national average, while there was virtually no difference in the male rates.

Declines in colorectal cancer incidence are thought to be linked to improvements in diet and lifestyle.

Table 7.1.4 Age-Standardized Incidence Rate for Colorectal Cancer

Age-Standardized Incidence Rate for Colorectal Cancer:
By Gender, Canada and New Brunswick (1990 - 1996)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	52.5	53.2	62.2	60.8	45.0	47.6
1991	51.7	49.2	62.3	57.7	43.5	42.6
1992	52.1	57.5	63.4	69.7	43.4	47.7
1993	51.3	53.4	61.3	66.0	43.6	42.6
1994	51.6	54.3	62.4	69.2	43.1	42.8
1995	50.3	50.7	60.8	62.9	42.0	40.7
1996	49.2	50.5	60.1	60.5	40.4	42.1

Technical Specifications:

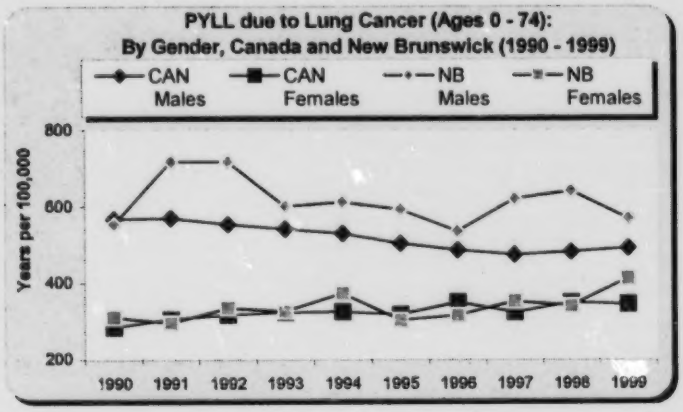
Exclusions: *Non-residents of Canada*

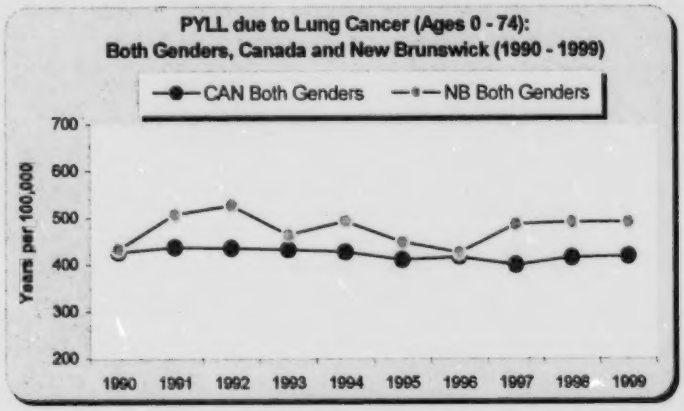
Source: *Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates); ISQ*

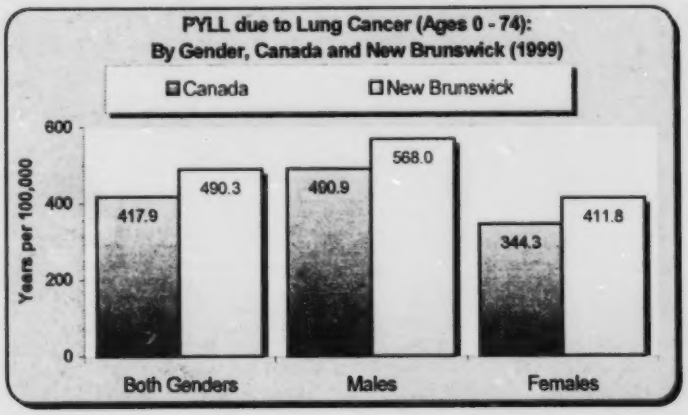
Calculation: *The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.*

References: *Statistics Canada – Cancer Incidence (CCR Shelf tables – IARC rules)*

Potential Years of Life Lost due to Lung Cancer







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for lung cancer reflects the level of success in preventing premature loss of life due to lung cancer.

ANALYSIS:

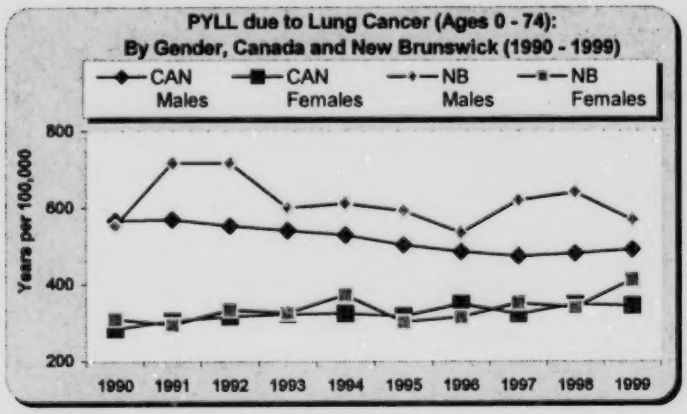
Over the past decade, PYLL due to lung cancer decreased by approximately 13% in Canadian males, but showed no consistent upward or downward trend for New Brunswick males. Among both New Brunswick and Canadian females, the PYLL due to lung cancer showed an increase between 1990 and 1999. The rate for NB females increased by roughly 33% from 1990 to 1999, while the female national average increased by approximately 21% over the same period. At the national level there was a slight downward trend in the total (i.e. both genders) PYLL rate. However in New Brunswick there was little overall change in the total PYLL due to lung cancer during the 1990s.

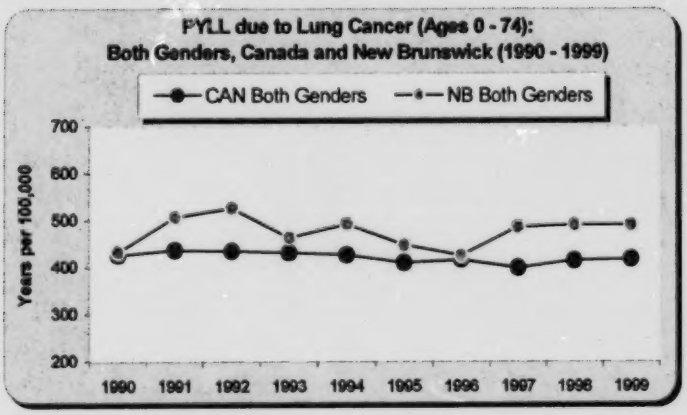
The PYLL due to lung cancer in New Brunswick males was higher than the national average in all but one year between 1990 and 1999. In 1999, the rate for NB males was almost 16% higher than the male national average. In 1999, the PYLL for New Brunswick females was close to 20% higher than the female national average. However, for the ten year period between 1990 and 1999, there was less than a 4% difference between the average rate for NB females and the female national average.

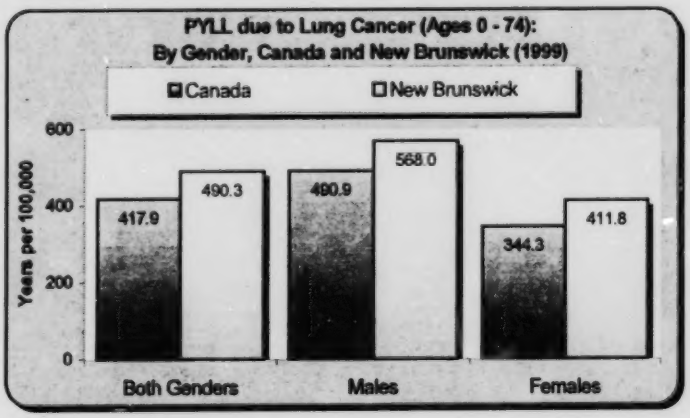
Consistent with mortality and incidence measures, PYLL due to lung cancer has historically been much higher in males than in females. However, this gap narrowed substantially over the past decade. In 1999, Canadian males lost roughly 43% more years of life due to lung cancer than did Canadian females. In the same year, New Brunswick males lost approximately 38% more years of life due to lung cancer than did NB females.

Differences in PYLL rates reflect differences in the underlying incidence of lung cancer as well as differences in the success of treatment of the disease.

Potential Years of Life Lost due to Lung Cancer







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for lung cancer reflects the level of success in preventing premature loss of life due to lung cancer.

ANALYSIS:

Over the past decade, PYLL due to lung cancer decreased by approximately 13% in Canadian males, but showed no consistent upward or downward trend for New Brunswick males. Among both New Brunswick and Canadian females, the PYLL due to lung cancer showed an increase between 1990 and 1999. The rate for NB females increased by roughly 33% from 1990 to 1999, while the female national average increased by approximately 21% over the same period. At the national level there was a slight downward trend in the total (i.e. both genders) PYLL rate. However in New Brunswick there was little overall change in the total PYLL due to lung cancer during the 1990s.

The PYLL due to lung cancer in New Brunswick males was higher than the national average in all but one year between 1990 and 1999. In 1999, the rate for NB males was almost 16% higher than the male national average. In 1999, the PYLL for New Brunswick females was close to 20% higher than the female national average. However, for the ten year period between 1990 and 1999, there was less than a 4% difference between the average rate for NB females and the female national average.

Consistent with mortality and incidence measures, PYLL due to lung cancer has historically been much higher in males than in females. However, this gap narrowed substantially over the past decade. In 1999, Canadian males lost roughly 43% more years of life due to lung cancer than did Canadian females. In the same year, New Brunswick males lost approximately 38% more years of life due to lung cancer than did NB females.

Differences in PYLL rates reflect differences in the underlying incidence of lung cancer as well as differences in the success of treatment of the disease.

Table 7.2.1 Potential Years of Life Lost Before Age 75 due to Lung Cancer

Potential Years of Life Lost Before Age 75 due to Lung Cancer
By Gender, Canada and New Brunswick (1990 - 1999)
Years per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	426.1	432.3	567.1	553.6	284.2	310.1
1991	437.0	507.0	568.8	717.2	304.4	295.4
1992	435.2	526.6	553.2	717.4	316.4	334.4
1993	432.1	463.5	540.5	599.8	322.9	326.0
1994	427.0	492.7	529.1	611.5	324.2	372.6
1995	410.4	447.8	502.9	591.6	317.4	302.2
1996	417.0	425.5	485.1	534.4	348.6	315.2
1997	398.7	486.7	474.2	619.7	322.7	351.9
1998	414.6	490.8	480.5	640.1	348.2	339.8
1999	417.9	490.3	490.9	568.0	344.3	411.8

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

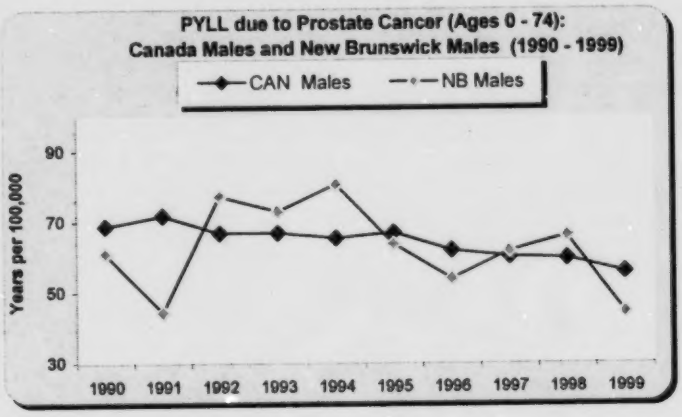
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

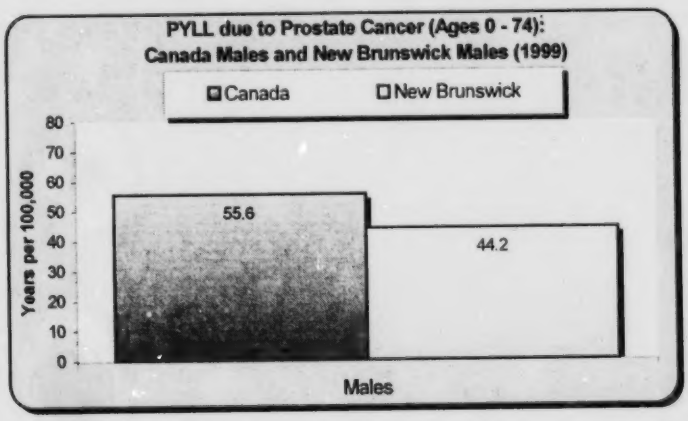
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*

Potential Years of Life Lost due to Prostate Cancer





DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for prostate cancer reflects the level of success in preventing premature loss of life due to prostate cancer.

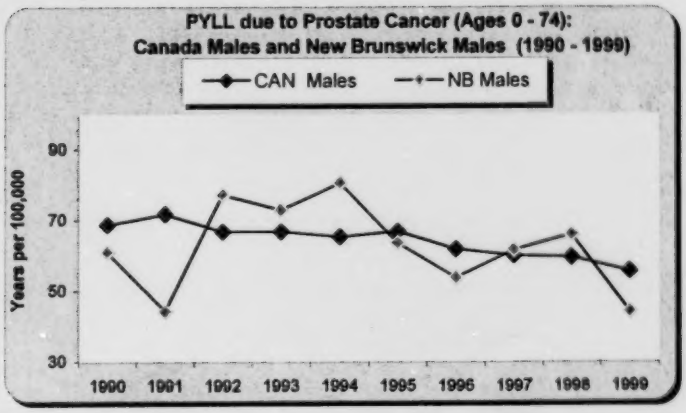
ANALYSIS:

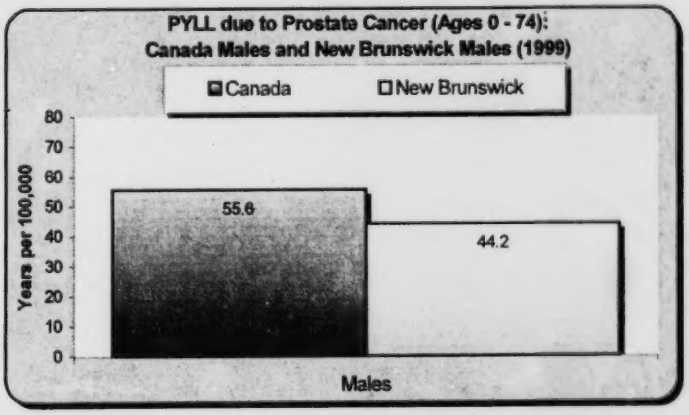
From 1990 to 1999, there was roughly a 19% decrease in the number of years of life lost due to prostate cancer, at the national level. The prostate cancer PYLL rate in New Brunswick showed considerable fluctuation over this period, but no consistent upward or downward trend.

In 1999, the prostate cancer PYLL rate in New Brunswick was almost 21% below the national rate. However, New Brunswick's average PYLL for the ten year period between 1990 and 1999, was only about 3% below the national average for the same time period.

Decreases in PYLL due to prostate cancer are primarily attributable to improvements in the early detection and treatment of this disease.

Potential Years of Life Lost due to Prostate Cancer





DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for prostate cancer reflects the level of success in preventing premature loss of life due to prostate cancer.

ANALYSIS:

From 1990 to 1999, there was roughly a 19% decrease in the number of years of life lost due to prostate cancer, at the national level. The prostate cancer PYLL rate in New Brunswick showed considerable fluctuation over this period, but no consistent upward or downward trend.

In 1999, the prostate cancer PYLL rate in New Brunswick was almost 21% below the national rate. However, New Brunswick's average PYLL for the ten year period between 1990 and 1999, was only about 3% below the national average for the same time period.

Decreases in PYLL due to prostate cancer are primarily attributable to improvements in the early detection and treatment of this disease.

Table 7.2.2 Potential Years of Life Lost Before Age 75 due to Prostate Cancer

Potential Years of Life Lost Before Age 75 due to Prostate Cancer
Canada Males and New Brunswick Males (1990 - 1999)
Years per 100,000 Population

	Males	
Year	**Canada**	**NB**
1990	68.7	60.9
1991	71.7	44.3
1992	66.8	77.2
1993	66.8	72.9
1994	65.3	80.5
1995	66.9	63.6
1996	61.8	53.8
1997	60.0	61.5
1998	59.5	65.9
1999	55.6	44.2

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

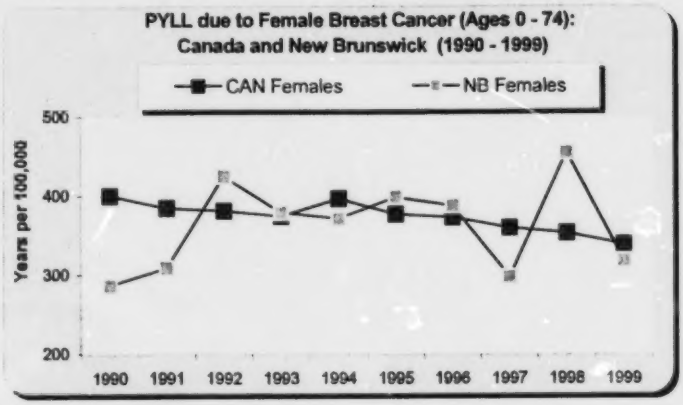
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

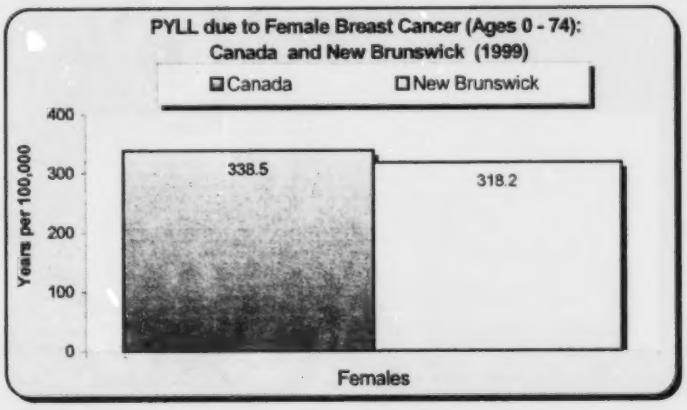
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*

Potential Years of Life Lost due to Breast Cancer





DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for breast cancer reflects the level of success in preventing premature loss of life due to breast cancer.

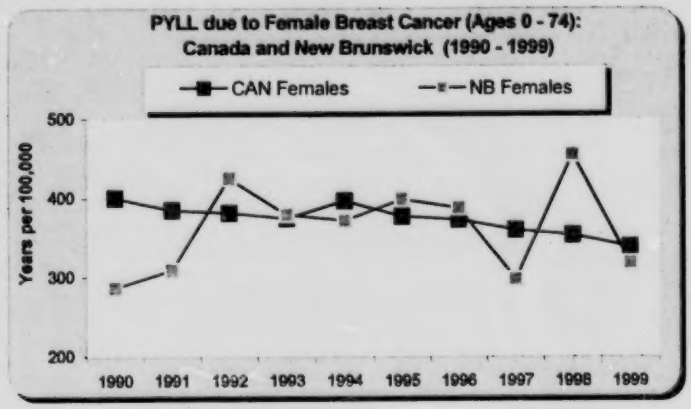
ANALYSIS:

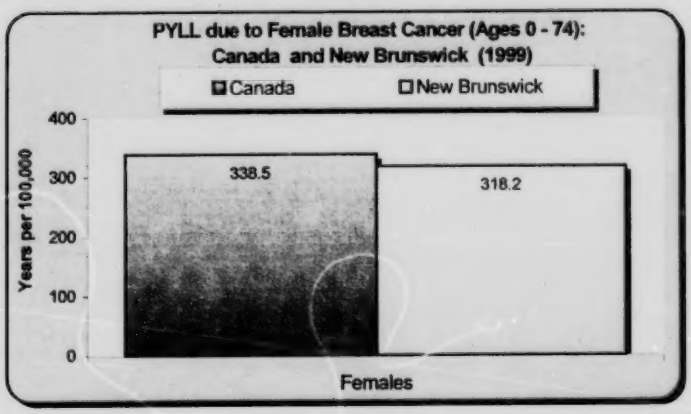
Between 1990 and 1999, there was a decrease of approximately 15% in the PYLL rate for breast cancer in Canadian females. Over this same time period, there was no consistent upward or downward trend in the comparable New Brunswick rate.

Although there was considerable variability in the breast cancer PYLL rate for New Brunswick, on average the NB rate was similar to the national rate. In 1999 the potential years of life lost by NB females due to breast cancer was roughly 6% below the national rate.

Declines in PYLL due to breast cancer are attributable to improvements in the early detection and treatment of this disease

Potential Years of Life Lost due to Breast Cancer





DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for breast cancer reflects the level of success in preventing premature loss of life due to breast cancer.

ANALYSIS:

Between 1990 and 1999, there was a decrease of approximately 15% in the PYLL rate for breast cancer in Canadian females. Over this same time period, there was no consistent upward or downward trend in the comparable New Brunswick rate.

Although there was considerable variability in the breast cancer PYLL rate for New Brunswick, on average the NB rate was similar to the national rate. In 1999 the potential years of life lost by NB females due to breast cancer was roughly 6% below the national rate.

Declines in PYLL due to breast cancer are attributable to improvements in the early detection and treatment of this disease

Table 7.2.3 Potential Years of Life Lost Before Age 75 due to Female Breast Cancer

Potential Years of Life Lost Before Age 75 due to Female Breast Cancer
Canada and New Brunswick (1990 - 1999)
Years per 100,000 Population

	Females	
Year	**Canada**	**NB**
1990	400.3	286.6
1991	384.8	308.9
1992	381.4	424.9
1993	374.1	379.0
1994	396.7	371.9
1995	376.9	398.5
1996	372.8	387.4
1997	359.3	297.4
1998	353.2	454.7
1999	338.5	318.2

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

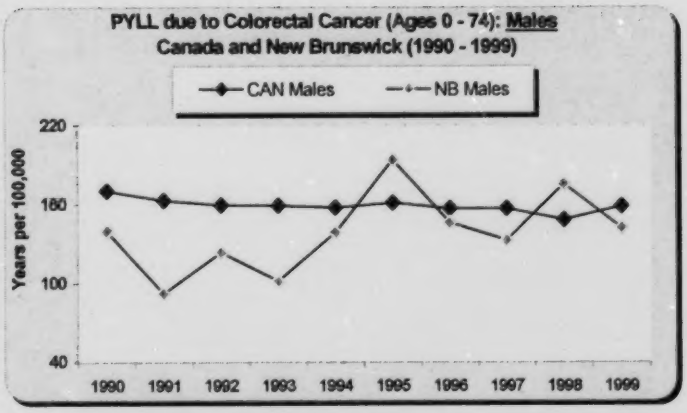
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

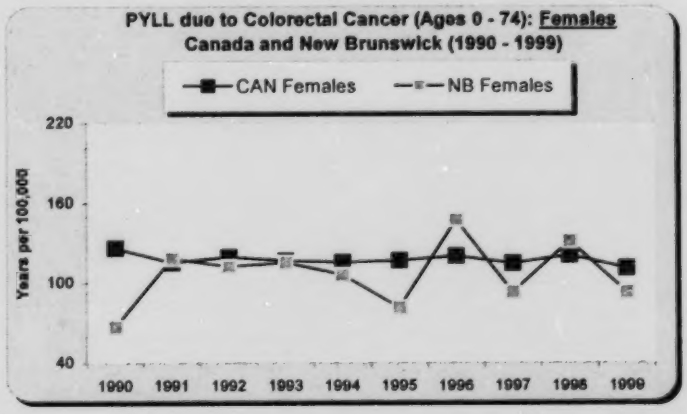
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

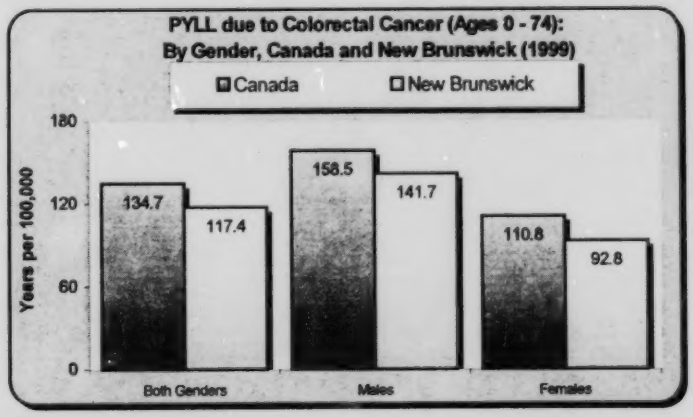
Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*

Potential Years of Life Lost due to Colorectal Cancer







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for colorectal cancer reflects the level of success in preventing premature loss of life due to colorectal cancer.

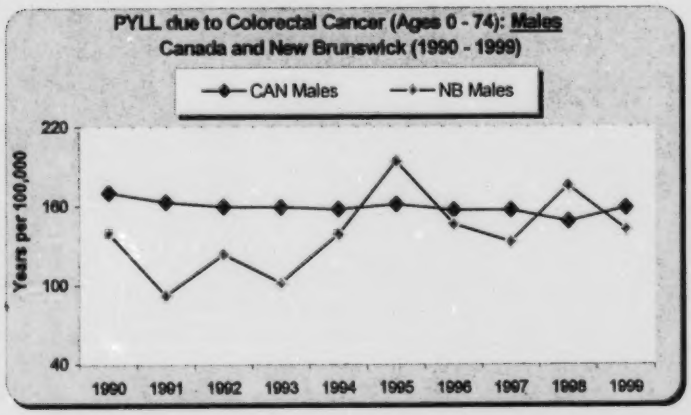
ANALYSIS:

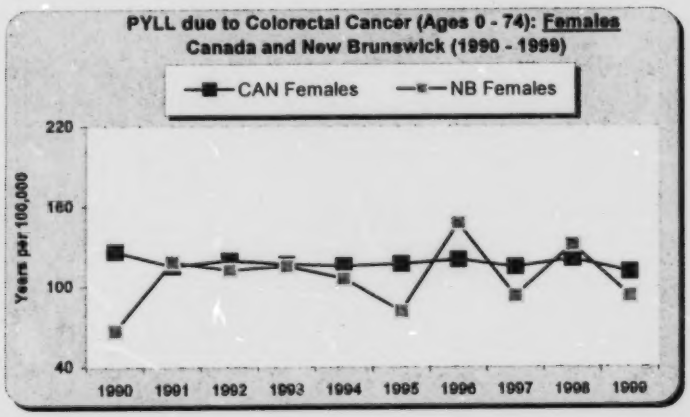
The overall trend in PYLL due to colorectal cancer was relatively stable for Canadian males during the period from 1990 to 1999. During this time, the rate for New Brunswick males increased from an average 118.4 for the period 1990 - 1992 to an average rate of 149.9 for the period 1997 - 1999; although the rate showed no sign of a further upward trend after 1995. In females, neither the national nor the provincial rate showed any consistent upward or downward trend during the last decade.

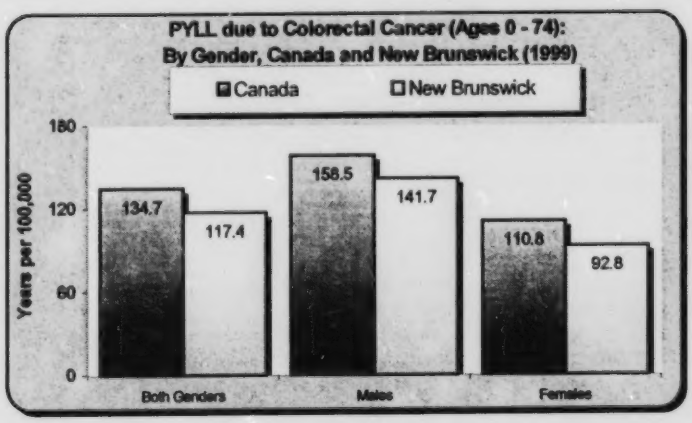
For the majority of the years between 1990 and 1999 the colorectal PYLL rate for New Brunswick males and females was below the comparable national rate. In 1999, the PYLL rate for NB males was roughly 11% below the national rate, while the rate for NB females was approximately 16% lower than the rate for Canadian females.

As with the incidence and mortality rates for colorectal cancer, the PYLL due to this disease is much higher in males than in females. In 1999, the PYLL due to colorectal cancer was almost 43% higher in Canadian males than in Canadian females. In New Brunswick, this gender gap was even larger, with NB males loosing almost 53% more years of life due to colorectal cancer than NB females.

Potential Years of Life Lost due to Colorectal Cancer







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ANALYSIS:

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For the majority of the years between 1990 and 1999 the colorectal PYLL rate for New Brunswick males and females was below the comparable national rate. In 1999, the PYLL rate for NB males was roughly 11% below the national rate, while the rate for NB females was approximately 16% lower than the rate for Canadian females.

As with the incidence and mortality rates for colorectal cancer, the PYLL due to this disease is much higher in males than in females. In 1999, the PYLL due to colorectal cancer was almost 43% higher in Canadian males than in Canadian females. In New Brunswick, this gender gap was even larger, with NB males loosing almost 53% more years of life due to colorectal cancer than NB females.

Table 7.2.4 Potential Years of Life Lost Before Age 75 due to Colorectal Cancer

Potential Years of Life Lost Before Age 75 due to Colorectal Cancer
By Gender, Canada and New Brunswick (1990 - 1999)
Years per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	148.3	103.4	170.2	139.5	126.2	67.0
1991	139.0	105.2	162.8	92.2	115.1	118.3
1992	139.6	117.9	159.6	123.4	119.5	112.4
1993	138.0	108.4	159.0	101.6	116.9	115.3
1994	136.4	122.4	157.4	138.5	115.3	106.1
1995	139.1	137.9	161.2	193.7	116.9	81.4
1996	138.5	146.6	156.7	146.0	120.2	147.3
1997	135.7	112.9	156.8	132.7	114.6	92.8
1998	134.5	153.4	148.4	175.3	120.5	131.2
1999	134.7	117.4	158.5	141.7	110.8	92.8

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

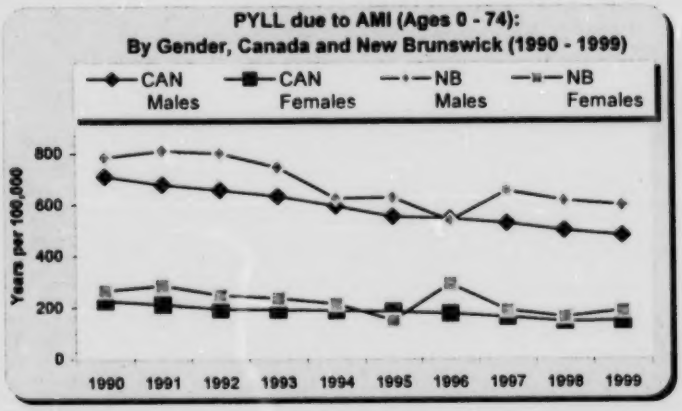
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

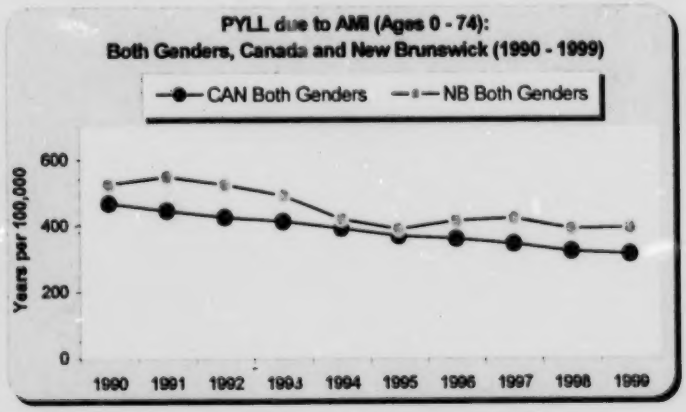
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

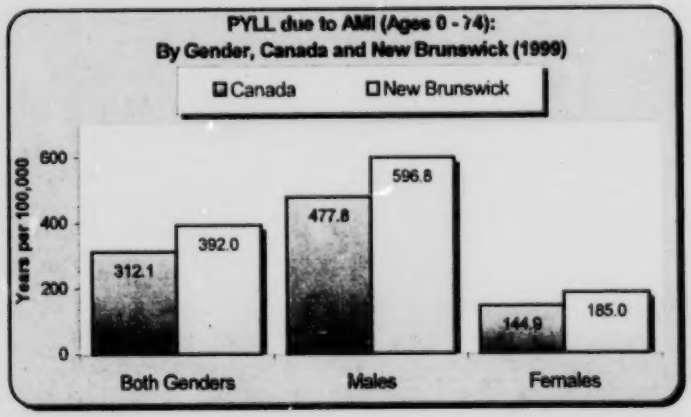
Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*

Potential Years of Life Lost due to Acute Myocardial Infarction







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for Acute Myocardial Infarction (AMI) reflects the level of success in preventing premature loss of life due to heart attack.

ANALYSIS:

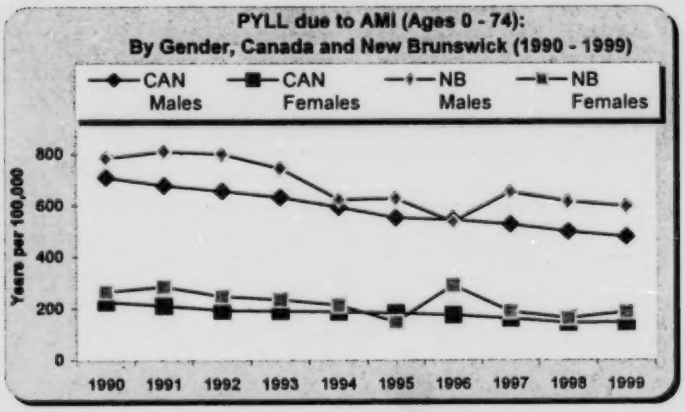
During the 1990's there was a decline in PYLL due to AMI in males and females at both the national and provincial level. For Canadian males, the PYLL rate fell by close to 33%, while the rate for males in New Brunswick fell by roughly 24% from 1990 to 1999. The rate for Canadian females declined by approximately 36% from 1990 to 1999. The rate for New Brunswick females fell by about 30% over the same time period.

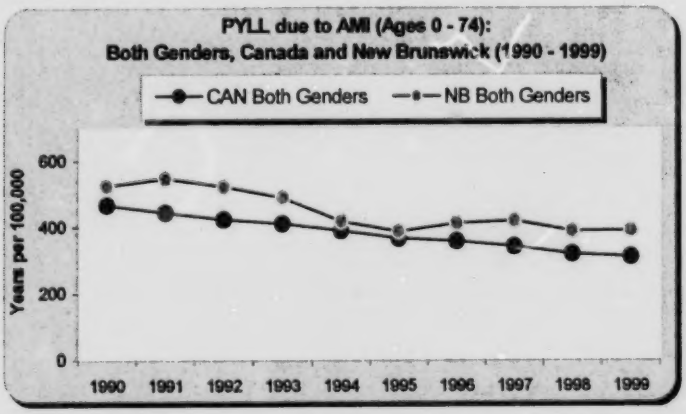
New Brunswick's PYLL rate due to AMI has typically been higher than the national average for both males and females. In 1999, NB's male PYLL AMI rate was almost 25% higher than the national rate, while the provincial rate for females was roughly 28% higher than the national rate.

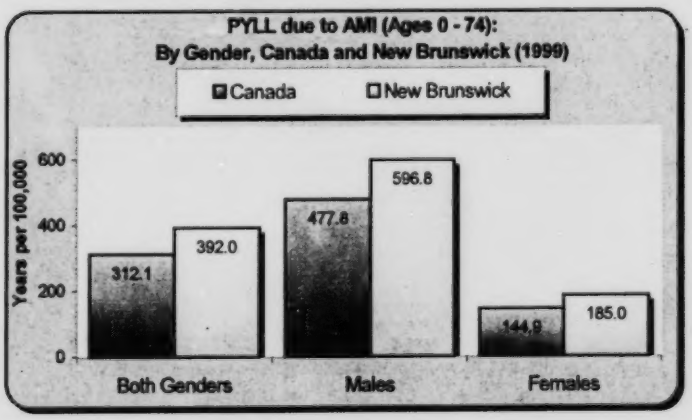
As with mortality, the PYLL rate for AMI is much higher in males than in females. In 1999, the PYLL rate for AMI in Canadian females was almost 70% lower than the rate for Canadian males. In New Brunswick, the female rate was approximately 69% lower than the rate for New Brunswick males.

The steady decline in PYLL due to AMI is though to be largely attributable to improvements in the treatment of heart disease, and the control of risk factors such as high blood pressure and elevated blood cholesterol.

Potential Years of Life Lost due to Acute Myocardial Infarction




PYLL due to AMI (Ages 0 - 74):
Both Genders, Canada and New Brunswick (1990 - 1999)
CAN Both Genders
NB Both Genders
Years per 100,000
600
400
200
0
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999



DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for Acute Myocardial Infarction (AMI) reflects the level of success in preventing premature loss of life due to heart attack.

ANALYSIS:

During the 1990's there was a decline in PYLL due to AMI in males and females at both the national and provincial level. For Canadian males, the PYLL rate fell by close to 33%, while the rate for males in New Brunswick fell by roughly 24% from 1990 to 1999. The rate for Canadian females declined by approximately 36% from 1990 to 1999. The rate for New Brunswick females fell by about 30% over the same time period.

New Brunswick's PYLL rate due to AMI has typically been higher than the national average for both males and females. In 1999, NB's male PYLL AMI rate was almost 25% higher than the national rate, while the provincial rate for females was roughly 28% higher than the national rate.

As with mortality, the PYLL rate for AMI is much higher in males than in females. In 1999, the PYLL rate for AMI in Canadian females was almost 70% lower than the rate for Canadian males. In New Brunswick, the female rate was approximately 69% lower than the rate for New Brunswick males.

The steady decline in PYLL due to AMI is though to be largely attributable to improvements in the treatment of heart disease, and the control of risk factors such as high blood pressure and elevated blood cholesterol.

Table 7.2.5 Potential Years of Life Lost due to Acute Myocardial Infarction

Potential Years of Life Lost Before Age 75 due to Acute Myocardial Infarction
By Gender, Canada and New Brunswick (1990 - 1999)
Years per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	468.1	526.1	709.6	785.1	225.2	265.2
1991	445.8	548.7	679.1	810.1	210.9	285.5
1992	425.7	524.2	656.6	799.6	193.3	246.7
1993	412.5	491.0	632.6	745.6	191.0	234.1
1994	391.0	419.2	594.2	624.1	186.5	212.1
1995	367.7	388.7	552.4	627.3	181.8	147.2
1996	359.8	413.9	544.6	536.5	173.8	289.7
1997	344.0	422.0	526.2	653.3	160.5	187.6
1998	321.1	389.6	498.0	614.9	142.7	161.7
1999	312.1	392.0	477.8	596.8	144.9	185.0

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

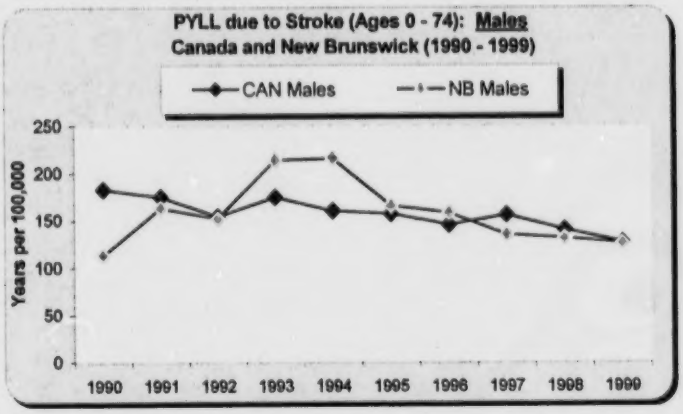
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

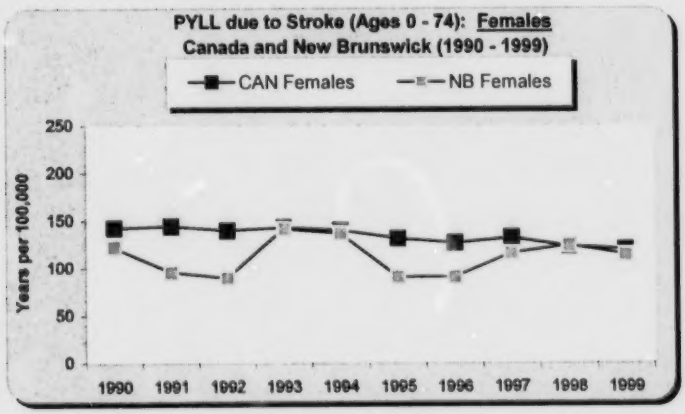
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

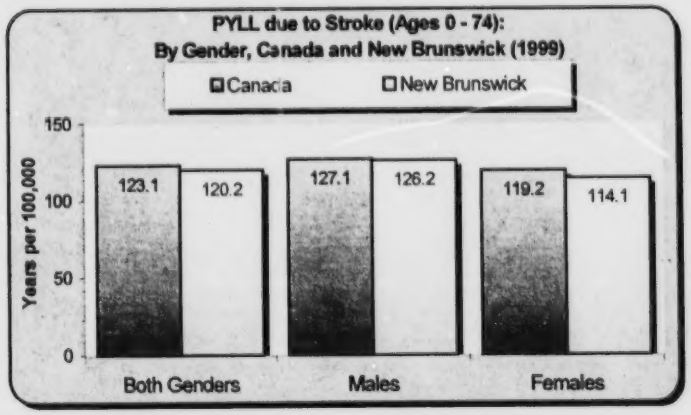
Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*

Potential Years of Life Lost due to Stroke







DESCRIPTION:

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ANALYSIS:

During the 1990's, there was a downward trend in the PYLL due to stroke in Canadian males, with the rate falling by roughly 31% between 1990 and 1999. In New Brunswick, on the other hand, the rate for males increased sharply from 1990 to 1994 and then began to decline to a level similar to the Canadian average. On the whole, however, there was no substantial overall change in the rate for NB males between 1990 and 1999.

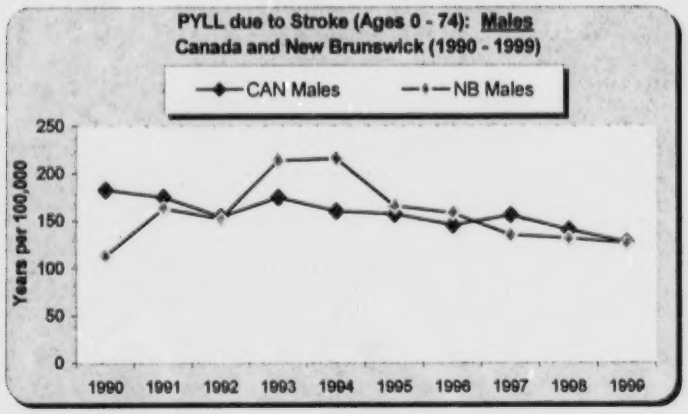
For Canadian females, there was also a downward trend in the PYLL rate due to stroke during the 1990's. Between 1990 and 1999 the rate for Canadian females declined by approximately 16%. During this time period, the rate for New Brunswick females showed no consistent upward or downward trend.

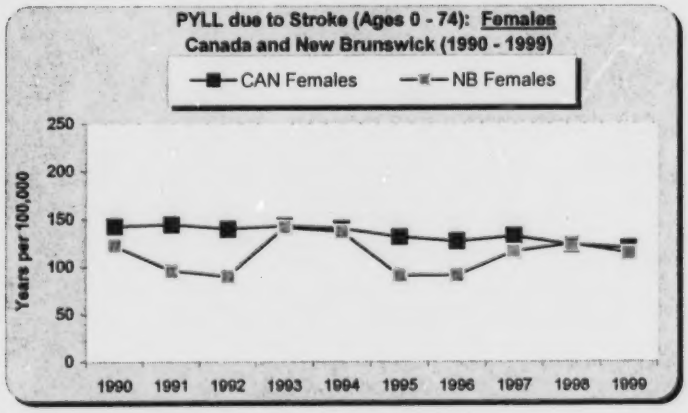
With the exception of the male rate in the four years between 1993 and 1996, New Brunswick PYLL rates due to stroke were generally somewhat lower than the national rates. In 1999, the rate for New Brunswick males was similar to the rate for Canadian males, while the rate for NB females was approximately 4% below the national rate for females.

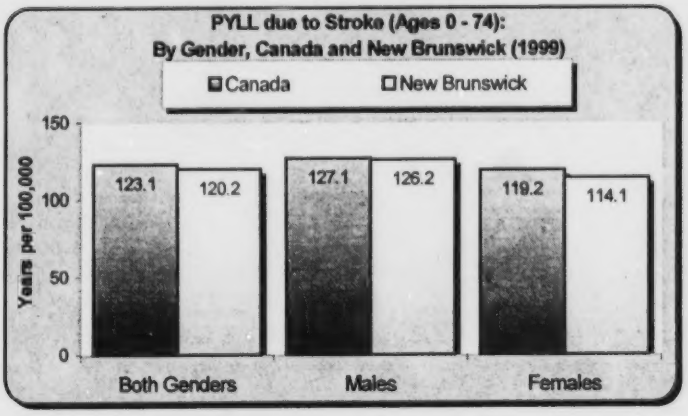
During the past decade male and female PYLL rates due to stroke have tended to converge such that in 1999 there was little gender difference at the national level. At the provincial level, the PYLL rate due to stroke for New Brunswick males in 1999, remained slightly higher than that for females.

Declines in the PYLL rate due to stroke are thought to be attributable to improvements in treatment and control of risk factors such as high blood pressure.

Potential Years of Life Lost due to Stroke







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ANALYSIS:

During the 1990's, there was a downward trend in the PYLL due to stroke in Canadian males, with the rate falling by roughly 31% between 1990 and 1999. In New Brunswick, on the other hand, the rate for males increased sharply from 1990 to 1994 and then began to decline to a level similar to the Canadian average. On the whole, however, there was no substantial overall change in the rate for NB males between 1990 and 1999.

For Canadian females, there was also a downward trend in the PYLL rate due to stroke during the 1990's. Between 1990 and 1999 the rate for Canadian females declined by approximately 16%. During this time period, the rate for New Brunswick females showed no consistent upward or downward trend.

With the exception of the male rate in the four years between 1993 and 1996, New Brunswick PYLL rates due to stroke were generally somewhat lower than the national rates. In 1999, the rate for New Brunswick males was similar to the rate for Canadian males, while the rate for NB females was approximately 4% below the national rate for females.

During the past decade male and female PYLL rates due to stroke have tended to converge such that in 1999 there was little gender difference at the national level. At the provincial level, the PYLL rate due to stroke for New Brunswick males in 1999, remained slightly higher than that for females.

Declines in the PYLL rate due to stroke are thought to be attributable to improvements in treatment and control of risk factors such as high blood pressure.

Table 7.2.6 Potential Years of Life Lost Before Age 75 due to Stroke

Potential Years of Life Lost Before Age 75 due to Stroke
By Gender, Canada and New Brunswick (1990 - 1999)
Years per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	162.6	117.6	183.1	113.3	142.1	121.9
1991	159.7	129.6	175.2	163.3	144.1	95.6
1992	147.0	121.1	154.5	152.2	139.5	89.8
1993	158.8	177.7	174.6	213.7	142.9	141.4
1994	150.1	176.2	160.3	215.5	139.8	136.5
1995	144.0	128.4	157.2	165.7	130.8	90.6
1996	136.0	124.5	145.6	157.9	126.3	90.7
1997	143.9	125.2	155.8	134.8	131.9	115.4
1998	131.4	127.3	140.2	131.1	122.6	123.4
1999	123.1	120.2	127.1	126.2	119.2	114.1

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

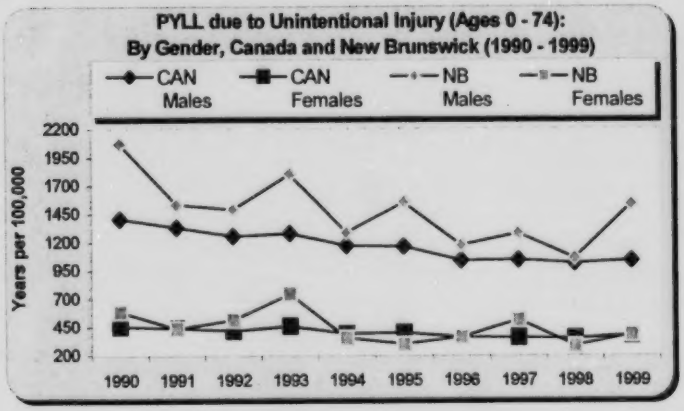
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

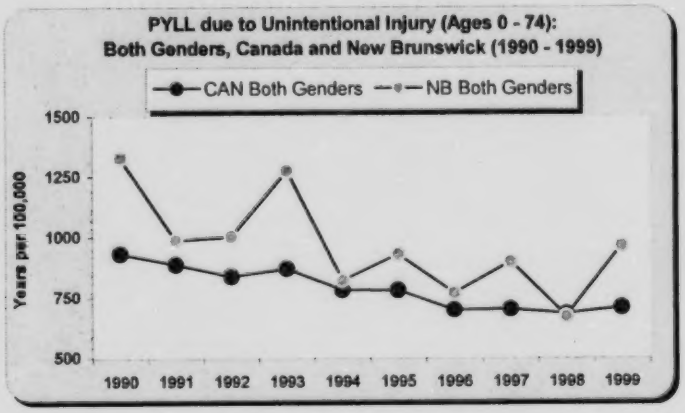
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

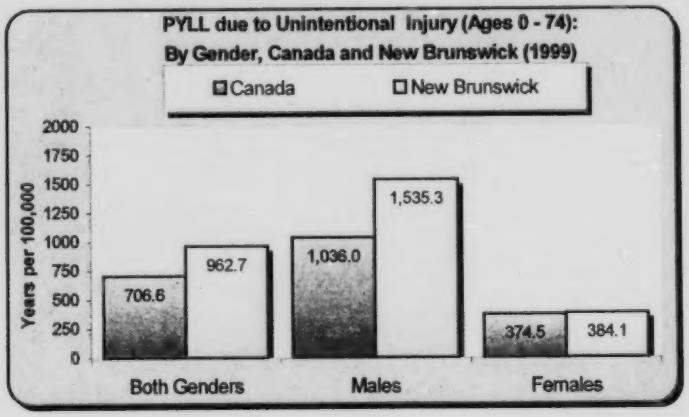
Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*

Potential Years of Life Lost due to Unintentional Injury







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL due to unintentional Injury reflects the level of success in preventing premature loss of life due to unintentional injuries.

ANALYSIS:

Both Canadian and New Brunswick males experienced a decrease in the number of years of life lost due to unintentional injury during the 1990s. From 1990 and 1999, the PYLL rate due to unintentional injuries for males fell by approximately 26% at the national as well as the provincial level.

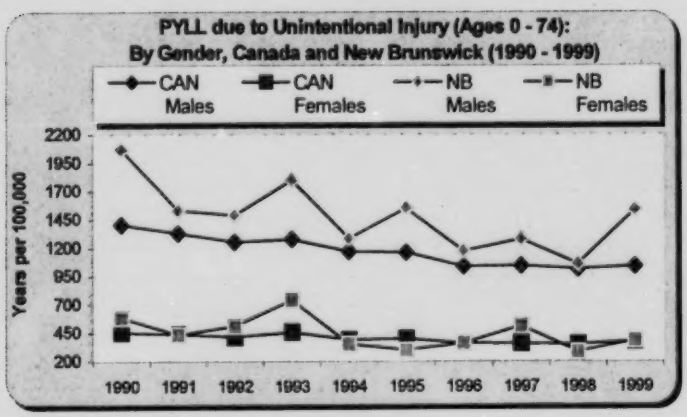
PYLL rates due to unintentional injury in females also declined during the 1990s. The national rate for females fell by close to 18% from 1990 to 1999. The rate for New Brunswick females fell by roughly 34% during this same time period.

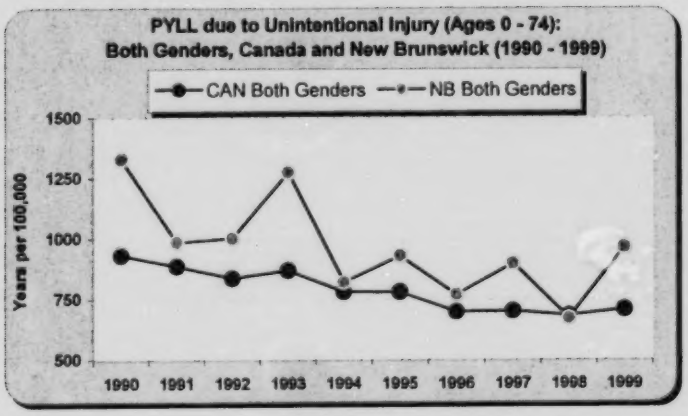
On average over the ten year period between 1990 and 1999 the PYLL rate due to unintentional injury in New Brunswick tended to be higher than the comparable national average. In 1999 the rate for New Brunswick males was roughly 48% higher than the national rate - although for the entire decade this difference was closer to 26%. The rate for NB females in 1999 was only about 3% higher than the national rate. However, on the average over the 10 years between 1990 and 1999 the PYLL rate for NB females was roughly 12% higher than the national average.

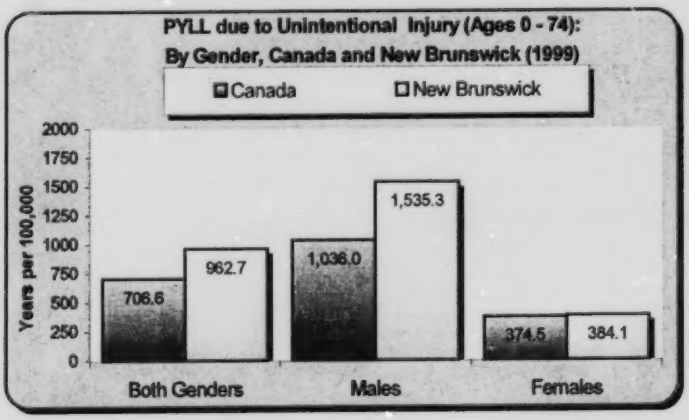
PYLL rates due to unintentional injury were consistently higher for males than for females. In 1999, the national PYLL rate for females was almost 64% less than the national rate for males. In New Brunswick, the rate for females was close to 75% lower than the provincial rate for males.

Decreases in PYLL due to Unintentional injury are attributable to a variety of injury prevention and harm reduction initiatives, particularly in the area of automotive safety.

Potential Years of Life Lost due to Unintentional Injury







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL due to unintentional Injury reflects the level of success in preventing premature loss of life due to unintentional injuries.

ANALYSIS:

Both Canadian and New Brunswick males experienced a decrease in the number of years of life lost due to unintentional injury during the 1990s. From 1990 and 1999, the PYLL rate due to unintentional injuries for males fell by approximately 26% at the national as well as the provincial level.

PYLL rates due to unintentional injury in females also declined during the 1990s. The national rate for females fell by close to 18% from 1990 to 1999. The rate for New Brunswick females fell by roughly 34% during this same time period.

On average over the ten year period between 1990 and 1999 the PYLL rate due to unintentional injury in New Brunswick tended to be higher than the comparable national average. In 1999 the rate for New Brunswick males was roughly 48% higher than the national rate - although for the entire decade this difference was closer to 26%. The rate for NB females in 1999 was only about 3% higher than the national rate. However, on the average over the 10 years between 1990 and 1999 the PYLL rate for NB females was roughly 12% higher than the national average.

PYLL rates due to unintentional injury were consistently higher for males than for females. In 1999, the national PYLL rate for females was almost 64% less than the national rate for males. In New Brunswick, the rate for females was close to 75% lower than the provincial rate for males.

Decreases in PYLL due to Unintentional injury are attributable to a variety of injury prevention and harm reduction initiatives, particularly in the area of automotive safety.

Table 7.2.7 Potential Years of Life Lost due to Unintentional Injury

Potential Years of Life Lost due to Unintentional Injury
By Gender, Canada and New Brunswick (1990 - 1999)
Years per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	931.8	1329.8	1405.1	2069.2	455.7	585.2
1991	886.6	985.8	1330.0	1531.7	440.5	436.4
1992	836.3	1001.6	1254.0	1489.1	416.0	510.3
1993	869.6	1273.2	1276.7	1801.1	459.9	740.5
1994	780.8	822.0	1169.0	1283.7	390.2	355.5
1995	780.1	928.3	1158.2	1548.9	399.6	300.1
1996	698.7	769.1	1036.0	1173.8	359.2	358.8
1997	701.0	896.7	1041.3	1276.2	358.0	512.2
1998	682.3	672.3	1013.6	1057.0	348.4	283.1
1999	706.6	962.7	1036.0	1535.3	374.5	384.1

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

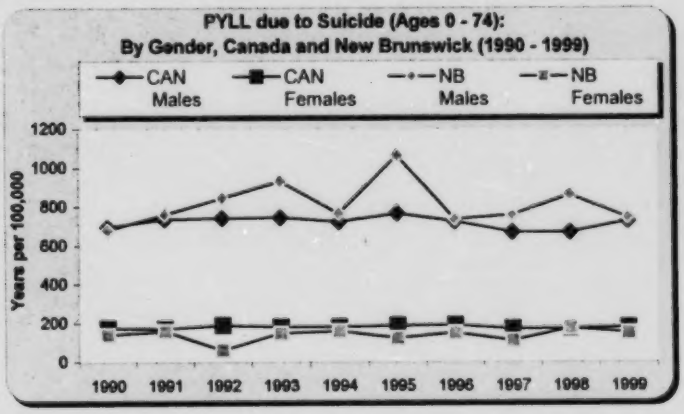
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

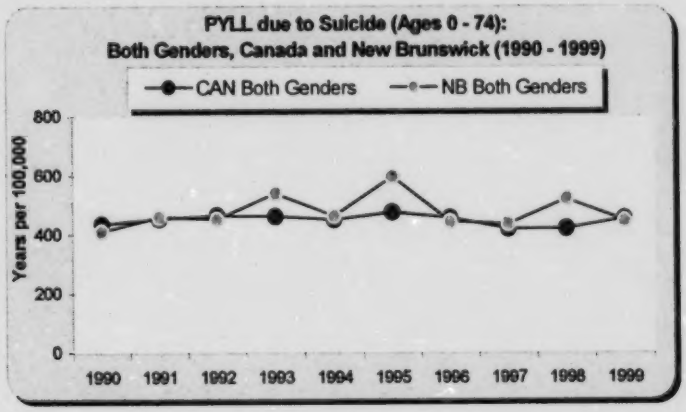
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

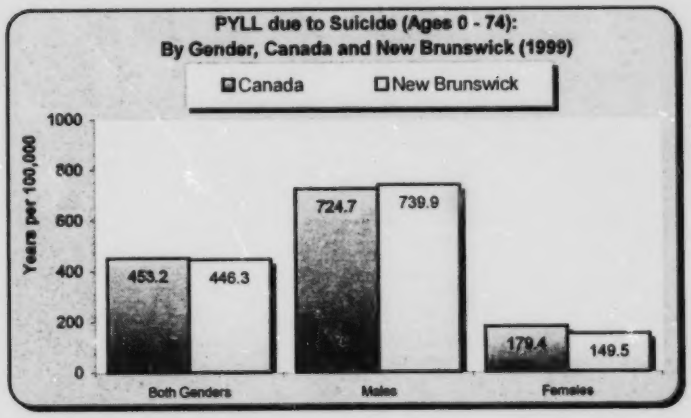
Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*

Potential Years Life Lost due to Suicide







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for Suicide reflects the level of success in preventing premature loss of life due to suicide.

ANALYSIS:

During the 1990's there was no consistent upward or downward trend in the PYLL rate due to suicide in males at either the national or the provincial level. Similarly, the rate for both New Brunswick and Canadian females remained relatively stable from 1990 to 1999.

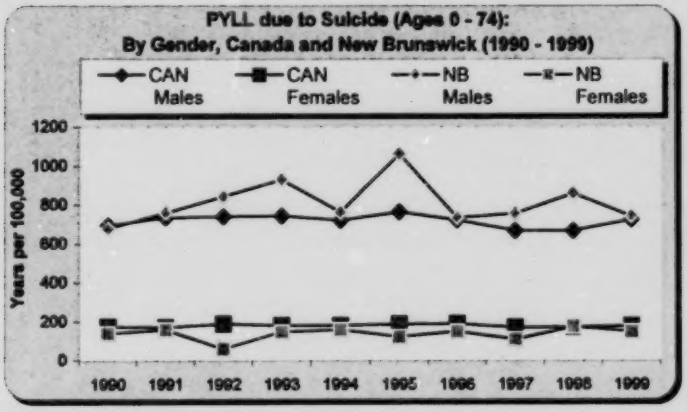
The PYLL rate due to suicide in New Brunswick males, over the ten year period from 1990 to 1999, was, on average, higher than the national rate. The rate for New Brunswick females on the other hand was generally slightly lower than the average for Canadian females.

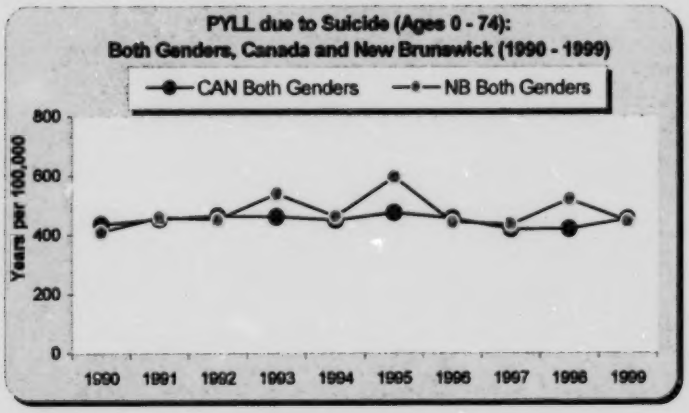
In 1999, the PYLL due to suicide for New Brunswick males was approximately 2% higher than the national rate for males. The rate for New Brunswick females, in 1999, was roughly 17% below the comparable national rate.

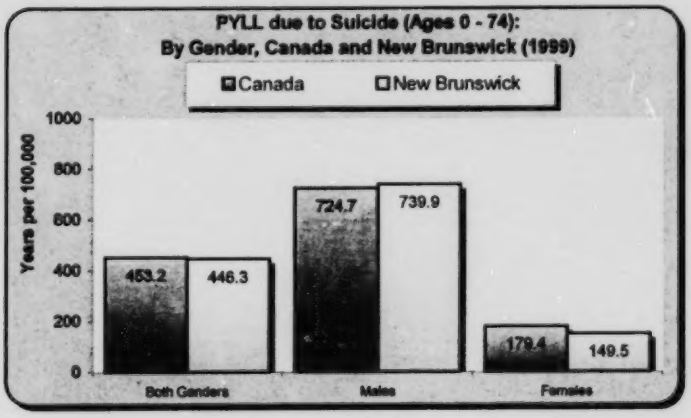
At both the national and provincial level, PYLL due to suicide was much higher in males than in females. In 1999, the national rate for females was 75% lower than the national rate for males. In New Brunswick, the rate for females in 1999 was almost 80% lower than the rate for males.

Although suicide is a relatively infrequent cause of death in the overall population, it is a major cause of PYLL because it tends to occur in young individuals who as a result loose a large number of potential years of life.

Potential Years Life Lost due to Suicide







DESCRIPTION:

Potential years of life lost (PYLL) is a measure of the number of years of life "lost" when a person dies prematurely (defined as death before age 75). A person dying at age 25, for example, has lost 50 potential years of life. PYLL provides a measure of mortality among the non-elderly. The PYLL for Suicide reflects the level of success in preventing premature loss of life due to suicide.

ANALYSIS:

During the 1990's there was no consistent upward or downward trend in the PYLL rate due to suicide in males at either the national or the provincial level. Similarly, the rate for both New Brunswick and Canadian females remained relatively stable from 1990 to 1999.

The PYLL rate due to suicide in New Brunswick males, over the ten year period from 1990 to 1999, was, on average, higher than the national rate. The rate for New Brunswick females on the other hand was generally slightly lower than the average for Canadian females.

In 1999, the PYLL due to suicide for New Brunswick males was approximately 2% higher than the national rate for males. The rate for New Brunswick females, in 1999, was roughly 17% below the comparable national rate.

At both the national and provincial level, PYLL due to suicide was much higher in males than in females. In 1999, the national rate for females was 75% lower than the national rate for males. In New Brunswick, the rate for females in 1999 was almost 80% lower than the rate for males.

Although suicide is a relatively infrequent cause of death in the overall population, it is a major cause of PYLL because it tends to occur in young individuals who as a result loose a large number of potential years of life.

Table 7.2.8 Potential Years of Life Lost due to Suicide

Potential Years of Life Lost due to Suicide
By Gender, Canada and New Brunswick (1990 - 1999)
Years per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1990	435.5	411.0	694.6	680.4	174.9	139.7
1991	453.6	459.7	734.3	758.0	171.1	159.4
1992	464.2	452.8	738.4	842.4	188.3	60.1
1993	461.7	539.6	741.8	929.2	179.9	146.4
1994	450.8	462.1	719.8	762.6	180.1	158.4
1995	475.5	595.2	763.6	1062.2	185.5	122.4
1996	456.3	444.2	721.3	734.8	189.7	149.4
1997	419.1	434.0	666.3	754.6	170.0	109.0
1998	420.2	519.4	666.1	860.3	172.3	174.5
1999	453.2	446.3	724.7	739.9	179.4	149.5

Technical Specifications:

Exclusions: *Non-residents of Canada are excluded from the deaths and population estimates used in the numerator and denominator.*

Numerator *Deaths of persons under exact age 75, by age group, sex and cause. Take the midpoint in each age group, subtract from 75 and multiply the number of deaths in that age group disaggregated by sex and cause of death. This represents PYLL.*

Denominator: *Population estimate (only if a rate is desired; otherwise, no denominator)*

Source: *Statistics Canada, Vital Statistics, Death Data Base and Demography Division (population estimates); ISQ*

Calculation: *Formula is as follows:*

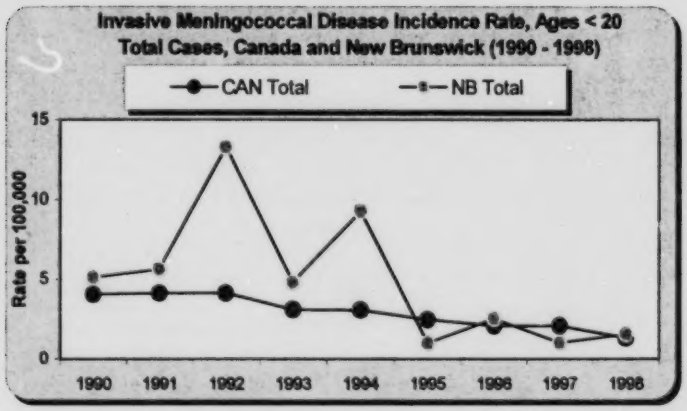
Age group	*Yrs lost*
0-1	*74.9*
1-4	*72.0*
5-9	*67.5*
10-14	*62.5*
15-19	*57.5*
20-24	*52.5*
25-29	*47.5*
30-34	*42.5*
35-39	*37.5*
40-44	*32.5*
45-49	*27.5*
50-54	*22.5*
55-59	*17.5*
60-64	*12.5*
65-69	*7.5*
70-74	*2.5*

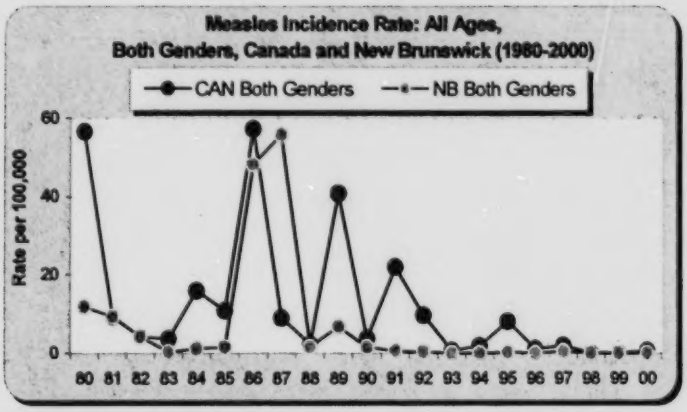
Total PYLL = sum of all deaths in each age group X yrs lost (per table above)

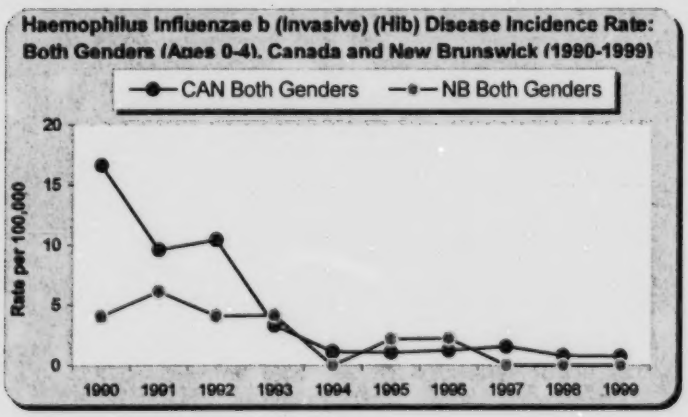
Crude PYLL rate per 100,000 = sum of all deaths in each age group X yrs lost X 100,000 / estimated population

Crude cause-specific PYLL rate per 100,000 = sum of all deaths in each age group due to specific cause X yrs lost X 100,000 / estimated population

References: *For PYLL age<75, various international health publications. For PYLL <70, Health Indicators 1999 (Statistics Canada), Statistical Report on the Health of Canadians (1999).*




Measles Incidence Rate: All Ages,
Both Genders, Canada and New Brunswick (1980-2000)
CAN Both Genders
NB Both Genders
Rate per 100,000
60
40
20
0
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00



DESCRIPTION:

This section includes information on three indicators: 1) The number of new cases (per 100,000 population under the age of 20) of invasive meningococcal disease. 2) The number of new cases (per 100,000 population) of measles. 3) The number of new cases (per 100,000 population of children 4 years of age or less) of haemophilus influenzae b (Hib) disease.

ANALYSIS:

At the national level, the total incidence of invasive meningococcal disease showed a downward trend between 1990 and 1998. At the provincial level, the total incidence of invasive meningococcal disease increased sharply in 1992 and 1994, but returned to relatively low rates in subsequent years. In 1998, the total incidence of meningoccal disease in New Brunswick was slightly higher than the national rate. However, on average over the four-year period from 1995 to 1998, the total incidence rate for meningoccal disease was somewhat lower in New Brunswick than in Canada as a whole.

Over the four-year period from 1995 to 1998, the average incidence of group c invasive meningococcal disease was slightly higher in NB than in Canada as a whole. Over the same time period, the average incidence of non-c type invasive meningococcal disease was substantially lower in NB than in Canada, while the average incidence of 'group unknown' invasive meningococcal disease was higher in NB than in Canada.

During the past decade, measles has been virtually eradicated both in New Brunswick and Canada as a whole. Since 1998 all measles cases in Canada were imported or import related.

Between 1990 and 1999, the incidence of haemophilus influenzae b (invasive) (Hib) disease declined dramatically both in New Brunswick and at the national level. From 1997 to 1999, no cases of Hib were reported in New Brunswick.

Table 7.3.1 Invasive Meningococcal Disease Incidence Rate:
Ages <20 By Serogroup, Canada and New Brunswick (1990 - 1998)
Rate per 100,000 Population

	Group C		Total Non-C		Group Unknown		Total	
	CAN	NB	CAN	NB	CAN	NB	CAN	NB
1990	1.55	1.86	1.03	0.46	1.46	2.78	4.04	5.10
1991	2.07	2.81	1.14	1.40	0.91	1.40	4.12	5.62
1992	2.37	8.55	1.28	3.80	0.47	0.95	4.13	13.29
1993	1.37	3.85	1.23	0.96	0.48	0.00	3.09	4.82
1994	1.26	5.36	1.39	2.44	0.40	1.46	3.06	9.26
1995	0.84	0.49	1.37	0.00	0.25	0.49	2.46	0.99
1996	0.67	1.00	1.05	1.00	0.35	0.50	2.07	2.51
1997	0.59	0.51	1.31	0.51	0.17	0.00	2.07	1.02
1998	0.22	0.52	0.79	0.52	0.29	0.52	1.30	1.56

Note: Zero means no cases

Table 7.3.2 Measles Incidence Rate:
All Ages, Both Genders, Canada and New Brunswick
(1980 - 2000)
Rate per 100,000 Population

	Both Genders	
Year	Canada	NB
1980	56.55	11.90
1981	9.29	9.34
1982	4.24	4.24
1983	3.68	0.28
1984	15.92	1.11
1985	10.90	1.52
1986	57.24	48.27
1987	9.02	55.92
1988	2.28	1.64
1989	40.84	6.80
1990	3.73	1.62
1991	22.04	0.54
1992	9.66	0.27
1993	0.71	0.00
1994	1.80	0.00
1995	8.04	0.27
1996	1.13	0.00
1997	1.95	0.53
1998	0.04	0.00
1999	0.09	0.00
2000	0.64	0.00

Table 7.3.3 Haemophilus Influenzae b (Invasive) (Hib) Disease Incidence Rate In Children:
Both Genders (Ages 0-4), Canada and New Brunswick
(1990 - 1999)
Rate per 100,000 Population

	Both Genders	
Year	Canada	NB
1990	16.62	4.08
1991	9.60	6.14
1992	10.44	4.12
1993	3.33	4.16
1994	1.14	0.00
1995	1.06	2.16
1996	1.22	2.22
1997	1.56	0.00
1998	0.80	0.00
1999	0.77	0.00

Technical Specifications:

Invasive Meningoccal Disease

Numerator: Total number of cases in individuals under 20 years of age. Denominator: Population under 20 years of age

Measles

Numerator: Total number of cases. *Denominator: Total population*

Haemophilus Influenzae b (invasive) (Hib) Disease

Numerator: Number of cases in children < 5 years of age. *Denominator: Number of children < 5 years*

All Indicators

Exclusions: *None*

Calculation: *Numerator/denominator x 100,000*

Source: *Notifiable disease reporting and enhanced surveillance system.*

QUALITY OF SERVICE

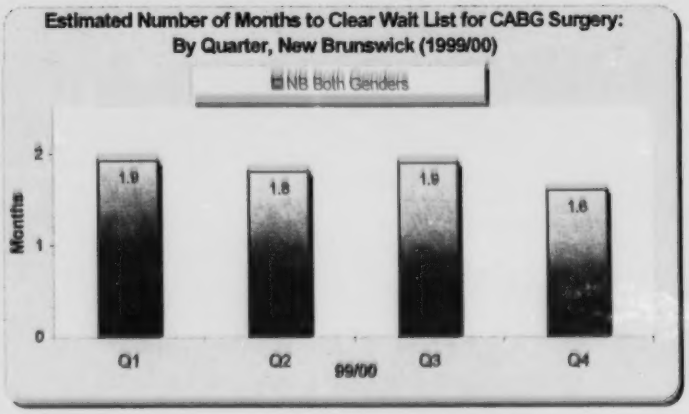
Indicators in this category are intended to reflect several aspects of health service quality, including appropriateness, effectiveness, accessibility and acceptability. Due to limitations in existing comparable data, the selected indicators do not address dimensions of service quality such as efficiency and safety.

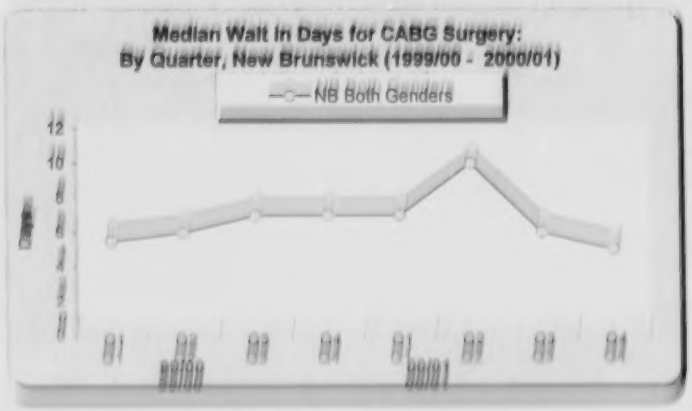
Access and appropriateness indicators including wait-time and service utilization measures reflect the health care system's capacity to provide appropriate and timely treatment and care according to need.

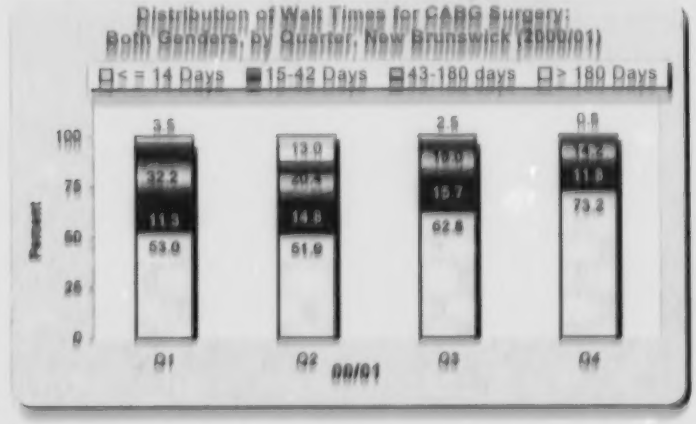
Effectiveness indicators such as re-admission rates, and the incidence of preventable diseases and risk conditions measure the success of health care programs and services in achieving desired clinical and behavioral outcomes.

Appropriateness indicators assess citizens' satisfaction with the health care services they have received. Patient satisfaction measures provide an indication of the extent to which New Brunswick's health care system is able to meet the needs and expectations of individual patients.

Wait Times for Cardiac Surgery







Note: One of the difficulties of measuring waiting times is in defining the wait. For a patient, waiting may begin at the onset of symptoms or pain. Waiting may begin when a patient first sees a family physician about symptoms. If surgery is required, waiting may begin when the decision to operate is made or when the patient is added to a waiting list. The measures reported here reflect only one component of waiting time: the period between cardiac catheterization and CABG surgery.

DESCRIPTION:

This indicator consists of three measures of the time patients (aged 20 and older) waited (see note below) for coronary artery bypass graft (CABG) surgery: 1) Months to clear wait list: The estimated number of months that would be required to provide surgery to all patients who are waiting for CABG surgery at the end of each quarter. 2) Median wait for surgery: The median number of days that patients waited for CABG surgery in each quarter. 3) Distribution of wait times: The percentage of CABG surgery patients in each quarter who received their CABG surgery within four specified time intervals. Cardiac catheterization is used to diagnose patients and determine their need for CABG surgery. Note that national comparative data is not available for this indicator.

ANALYSIS:

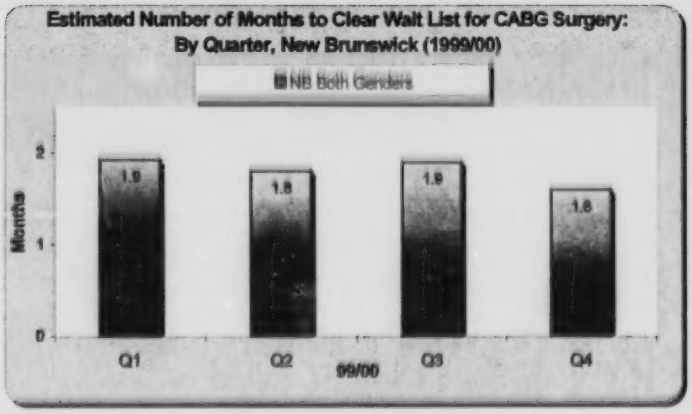
The estimated number of months required to clear the wait list at the end of each quarter ranged from 1.6 to 1.9 months during 1999/2000. The median wait for CABG surgery in 1999/2000 and 2000/2001 was between 5 and 7 days in all quarters except quarter 2 of 2000/2001. There was no consistent upward or downward trend in the median wait time over the 1999/2000 - 2000/2001 time period.

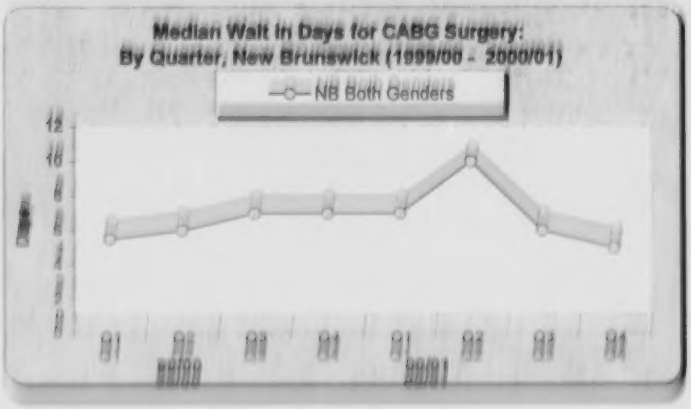
There was a substantial increase in the percentage of CABG surgeries with a wait-time of less than 14 days over the four quarters of 2000/2001 and a decrease in the percentage of surgeries with wait-times between 43 and 180 days. The percentage of surgeries with wait-times of 15-42 days ranged from about 11% - 16% over the four quarters. The percentage of CABG surgeries with wait-times in excess of 180 days was generally quite small, except in the second quarter of 2000/2001.

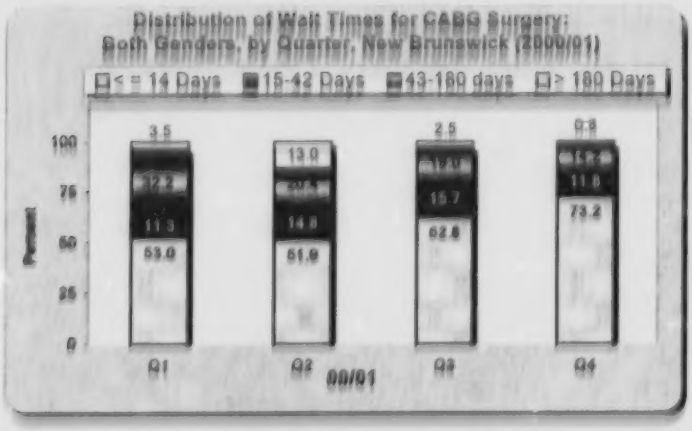
Waiting time for cardiac surgery is an important measure of access. Timely access to cardiac procedures can reduce morbidity and increase quality of life for those patients awaiting procedures.

Wait times are affected by factors such as changing patient status, availability of health care professionals, and accessibility of operating room time or other resources.

Wait Times for Cardiac Surgery







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ANALYSIS:

The estimated number of months required to clear the wait list at the end of each quarter ranged from 1.8 to 1.9 months during 1999/2000. The median wait for CABG surgery in 1999/2000 and 2000/2001 was between 9 and 11 days in all quarters except quarter 3 of 2000/2001. There was no consistent upward or downward trend in the median wait time over the 1999/2000 - 2000/2001 time period.

There was a substantial increase in the percentage of CABG surgeries with a wait-time of less than 14 days over the four quarters of 2000/2001 and a decrease in the percentage of surgeries with wait-times between 43 and 180 days. The percentage of surgeries with wait-times of 15-42 days ranged from about 11% - 16% over the four quarters. The percentage of CABG surgeries with wait-times in excess of 180 days was generally quite small, except in the second quarter of 2000/2001.

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Wait times are affected by factors such as changing patient status, availability of health care professionals, and accessibility of operating room time or other resources.

** **Note:** One of the difficulties of measuring waiting times is in defining the wait. For a patient, waiting may begin at the onset of symptoms or pain. Waiting may begin when a patient first sees a family physician about symptoms. If surgery is required, waiting may begin when the decision to operate is made or when the patient is added to a waiting list. The measures reported here reflect only one component of waiting time: the period between cardiac catheterization and CABG surgery.*

Table 8 Wait Times for Cardiac Surgery

Estimated Number of Months to Clear Current Wait List for CABG
Both Genders, by Quarter, New Brunswick (1999/2000)

Year / Quarter	1999/2000 Patients waiting at end of Quarter	Average # of CABGs per Month	Estimated Months to Clear Wait List
Q1	68	35	1.9
Q2	65	37	1.8
Q3	67	36	1.9
Q4	67	41	1.6

Median Wait in Days for CABG Surgery
Both Genders, by Quarter, New Brunswick (1999/00 - 2000/01)

	Year	
Quarter	1999/2000	2000/2001
Q1	5.5	7.0
Q2	6.0	10.0
Q3	7.0	6.0
Q4	7.0	5.0

Distribution of CABG Wait Times
Both Genders by Quarter and Wait Time Interval, New Brunswick (2000/01)

Year / Quarter	2000/2001 Percentage of CABGs Performed Within				
	<= 14 Days	15 - 42 Days	43 - 180 Days	> 180 Days	
Q1	53.0	11.3	32.2	3.5	
Q2	51.8	12.8	30.4	13.0	
Q3	56.8	16.7	18.0	2.5	
Q4	73.2	11.8	14.2	0.8	

Technical Specifications:

Inclusions: Includes only "isolated" CABG cases, uncomplicated by any other procedure (e.g., valve repair or replacement)

Exclusions: Excludes patients who were not New Brunswick residents. Excludes cases where cardiac catheterization or CABG surgery occurred outside of New Brunswick. Patients who underwent CABG surgery on the same day as catheterization (i.e., had a wait-time of less than one day) were excluded from the median wait-time and wait-time distribution calculations. In 1999/2000 2.9% of CABG surgeries occurred on the same day as catheterization. In 2000/2001 2.3% of CABG surgeries occurred on the same day as catheterization.

Calculations: For the most conservative results, if a patient had more than one cardiac catheterization prior to the CABG procedure, the most recent was used for the calculations.

Months to clear wait list:

Numerator: Total # of adults (aged 20 and over) who have received cardiac cathetehrization and been designated by a physician as needing CABG surgery, but have not yet received their surgery on the last day of the period in question.

Denominator: The average number of CABGs completed per month within the specified period.

Median wait for surgery:

Definition: The median is the score point at or which 50% of the cases fall above and 50% of the cases fall below. Thus, the median wait for surgery was the number of days that was shorter than the wait times for half of the patients and longer than the wait time for half of the patients who received CABGs in each quarter.

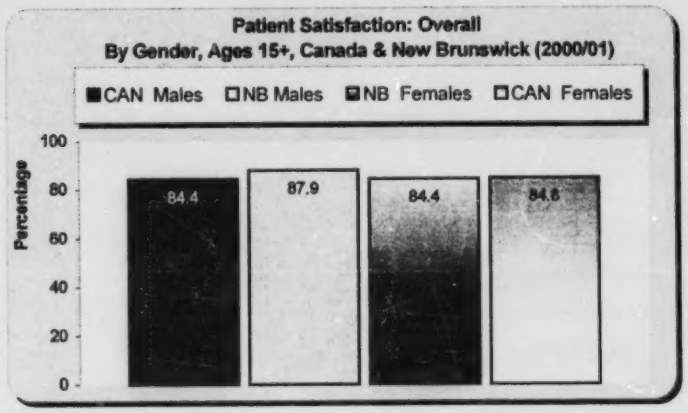
Distribution of wait times:

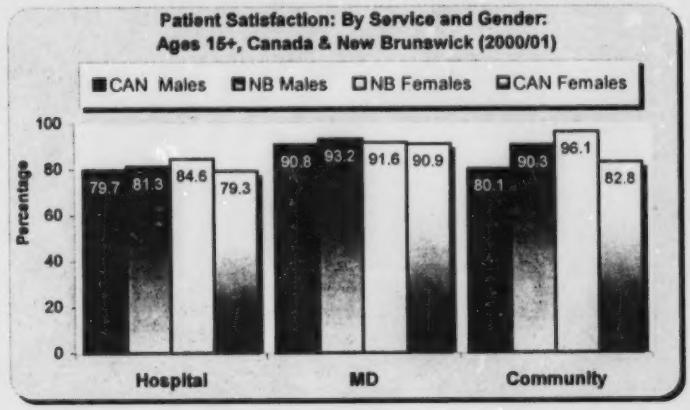
Definition: Percent of adults (aged 20 and older) who received CABG surgery in the period in question and who waited <= 14 days, 15-42 days, 43-180 days, > 180 days between cardiac catheterization and CABG surgery.

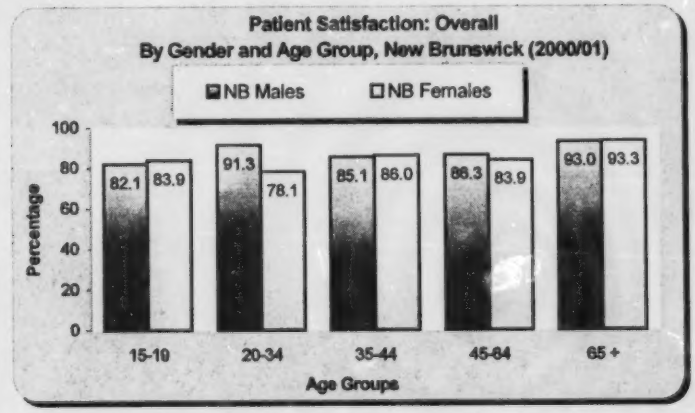
Source: New Brunswick Department of Health and Wellness, Discharge Abstract Database 1999/2000, 2000/2001.

References: Naylor CD, Baigrie RS, Goldman BS, Basinski A. Assessment of priority for coronary revascularization procedures. Lancet 1995; 345: 1075-1078.

Patient Satisfaction







DESCRIPTION:

Percentage of the adult population (15+) who rate themselves as either very satisfied or somewhat satisfied with the way the following services were provided: (a) overall health care services received, (b) services received in a hospital, (c) services received from a family doctor or other physician (i.e. MD), and (d) community-based services.

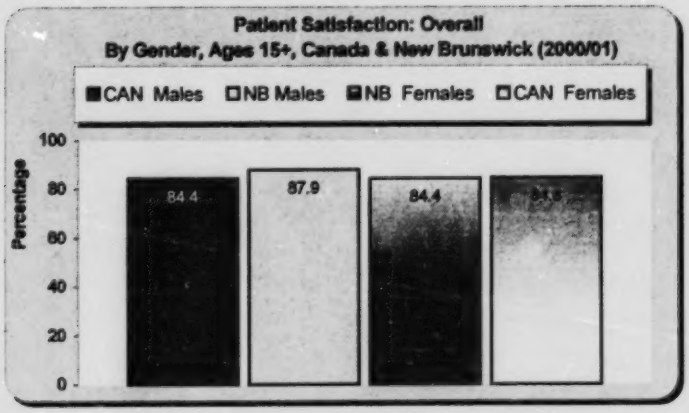
ANALYSIS:

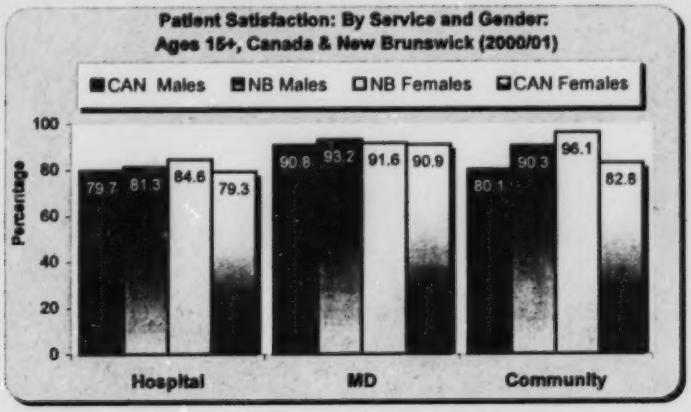
Close to eighty-eight percent of New Brunswick males and 84% of NB females who had received health care services were either "very satisfied" or "somewhat satisfied" with the services they had received in 2000/01. New Brunswick males had a slightly higher overall satisfaction rating than Canadian males, while NB females's overall satisfaction rating was similar to that of Canadian females.

New Brunswick females were somewhat more satisfied with hospital services received than Canadian females or males in general. New Brunswick males were slightly more satisfied with physician services than were Canadian males or females in general. Both New Brunswick males and females were substantially more satisfied with community-based services received than either Canadian males or females respectively. In addition, New Brunswick females were more satisfied with community-based services than were NB males. Of the three types of services rated, satisfaction with hospital services tended to be somewhat lower than satisfaction with physician or community-based services at both the national and provincial level.

In New Brunswick, overall satisfaction ratings varied somewhat among the different age groups, with satisfaction being highest in the 65+ group and lowest among 20 - 34 year old females. Males between ages 20 and 34 tended to be substantially more satisfied with health services received than did females of the same age. In other age categories, New Brunswick males and females tended to give similar ratings of their overall satisfaction with health services received.

Patient Satisfaction





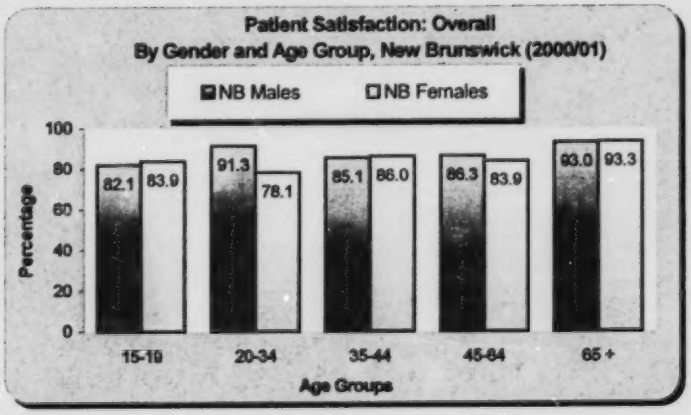


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Table 9 Patient Satisfaction
By Age Group and Gender, Canada and New Brunswick (2000/01)

Patient Satisfaction: Overall Health Care

Age Group	CAN Males	NB Males	CAN Females	NB Females
15-19	89.2	82.1	83.8	83.9
20-34	81.4	91.3	82.1	78.1
35-44	82.0	85.1	84.4	86.0
45-64	85.1	86.3	85.0	83.9
65 +	88.8	93.0	89.6	93.3
15+	**84.4**	**87.9**	**84.8**	**84.4**

Patient Satisfaction: Services Received in Hospital

Age Group	CAN Males	NB Males	CAN Females	NB Females
15-19	76.0	54.8 E	64.9	F
20-34	74.3	86.0	74.4	79.6
35-44	76.6	88.7	77.9	78.1
45-64	83.0	72.9	81.8	88.9
65 +	86.8	97.2	88.3	98.1
15+	**79.7**	**81.3**	**79.3**	**84.6**

(E: Use with caution) *(F: To unreliable to be published)*

Patient Satisfaction: Services Received from Family Doctor or other Physician

Age Group	CAN Males	NB Males	CAN Females	NB Females
15-19	94.6	91.8	91.0	84.3
20-34	87.1	96.0	90.0	92.2
35-44	90.7	88.6	90.1	92.6
45-64	90.5	93.5	91.3	90.2
65 +	94.8	94.9	92.7	94.8
15+	**90.8**	**93.2**	**90.9**	**91.6**

Patient Satisfaction:Community-Based Services Recieved

Age Group	CAN Males	NB Males	CAN Females	NB Females
15-19	85.4	F	73.5	F
20-34	76.5	F	78.3	F
35-44	79.0	F	85.2	90.9
45-64	82.0	F	83.0	94.5
65 +	82.7	F	93.6	100.0
15+	**80.1**	**90.3**	**82.8**	**96.1**

(F: Too unreliable to be published)

Technical Specifications:

For each service area, the following question was asked: Overall how satisfied were you with the way health care services were provided? Were you...Very satisfied? Somewhat satisfied? Neither satisfied nor dissatisfied? Somewhat dissatisfied? Very dissatisfied?

Exclusions: *refer to survey frame exclusions*

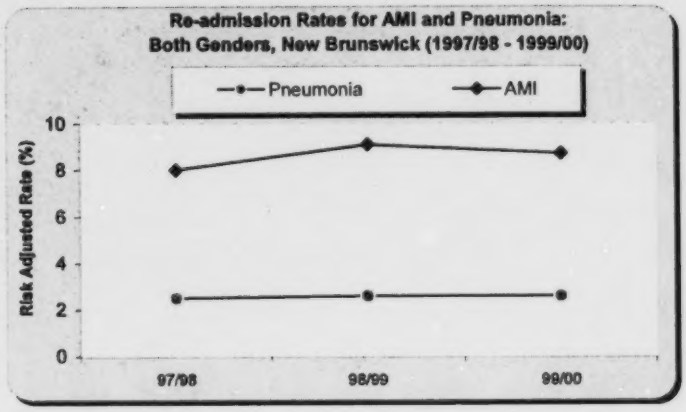
Numerator: *weighted number and percentage of individuals reporting very satisfied or somewhat satisfied with the service provided.*

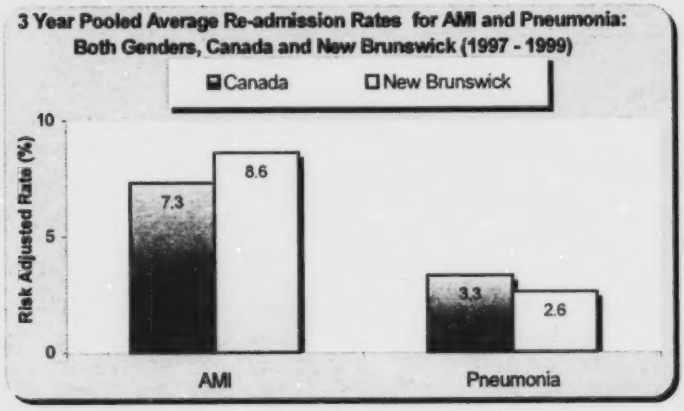
Denominator: *total population (in specified age groups)who used health care services in past 12 months*

Calculation: *(numerator/denominator) x 100*

Source: *Canadian Community Health Survey (sub sample approximately 25,000) – Cycle 1.1 2000*

Hospital Re-admissions for Acute Myocardial Infarction or Pneumonia





DESCRIPTION:

The risk adjusted rate (%) of unplanned re-admissions to an acute care institution following discharge for acute myocardial infarction (AMI) and pneumonia. A case is counted as a re-admission if it is for a relevant diagnosis or procedure and occurs within 28 days after the index episode of care. To allow for comparisons among different jurisdictions, a statistical (risk adjustment) model was used to adjust for differences in age, sex and co-morbidity.

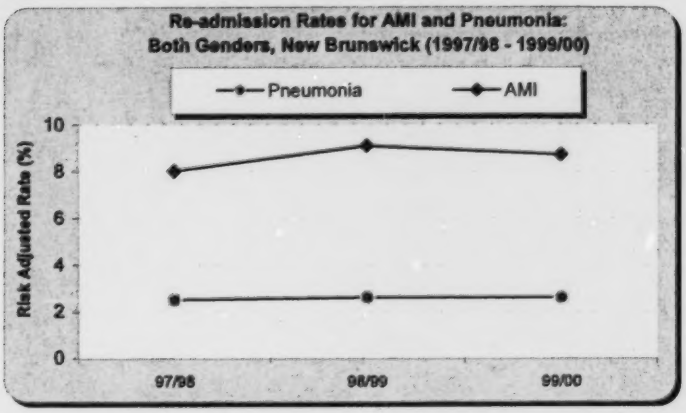
ANALYSIS:

Between 1997/98 and 1999/00 there was little change in the readmission rate for pneumonia in New Brunswick. Over the same time period, the readmission rate for AMI increased slightly.

New Brunswick's average AMI re-admission rate for the three-year period from 1997/98 to 1999/00 was somewhat higher than the national average, while the province's 3-year average re-admission rate for pneumonia was slightly lower than the comparable national rate.

Hospital re-admissions provide one measure of the quality of care. Many factors may be related to hospital re-admissions including, medication prescribed at initial discharge from hospital, patient compliance with directions, the quality of follow-up care in the community, and the quality and completeness of care during initial hospitalization. Higher than normal re-admission rates call for improvements in any or all of the following: practices in hospitals (e.g., early discharge criteria), the availability of appropriate community services, coordination between hospital and community providers, and patient education and instruction.

Hospital Re-admissions for Acute Myocardial Infarction or Pneumonia



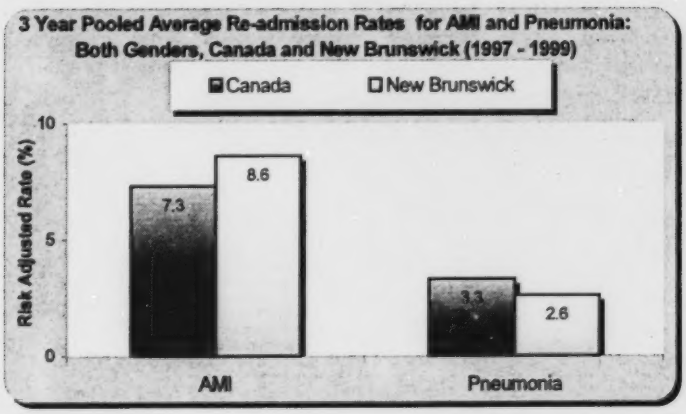


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Table 10 Re-admission Rates for AMI and Pneumonia

Re-admission Rate for Acute Myocardial Infarction:
Both Genders, Canada and New Brunswick (1997/98 - 1999/00)
Risk Adjusted Rates (%)

	Both Genders	
Year	**Canada**	**NB**
1997/1998	n.a.	8.0
1998/1999	n.a.	9.1
1999/2000	n.a.	8.7
1997 - 1999 *	7.3	8.6

** 3-year pooled average*
(n.a.: Data not available)

Re-admission Rate for Pneumonia:
Both Genders, Canada and New Brunswick (1997/98 - 1999/00)
Risk Adjusted Rates (%)

	Both Genders	
Year	**Canada**	**NB**
1997/1998	n.a.	2.5
1998/1999	n.a.	2.6
1999/2000	n.a.	2.6
1997 - 1999 *	3.3	2.6

** 3-year pooled average*
(n.a.: Data not available)

Technical Specifications:

Numerator: *Number of in-patient acute care pneumonia or AMI episodes (among patients 15 to 84 years of age) with a re-admission during the year*

Denominator: *Total number of acute care pneumonia or AMI episodes (among patients 15 to 84 years of age) during the year*

Source: *Hospital Morbidity Discharge Abstract Database, CIHI*

Calculation(s): *A logistic regression model is fitted with age, gender, and select comorbid conditions as independent variables. Coefficients derived from the logistic model are used to calculate the probability of readmission for each case (i.e., index episode). The expected readmission rate of a province is the sum of these case probabilities divided by the total number of cases. The risk adjusted readmission rate (RARR) is calculated by dividing the observed readmission rate of each province by the expected readmission rate of the province and multiplying by the average readmission rate. A 95 percent confidence interval for the RARR is also calculated.*

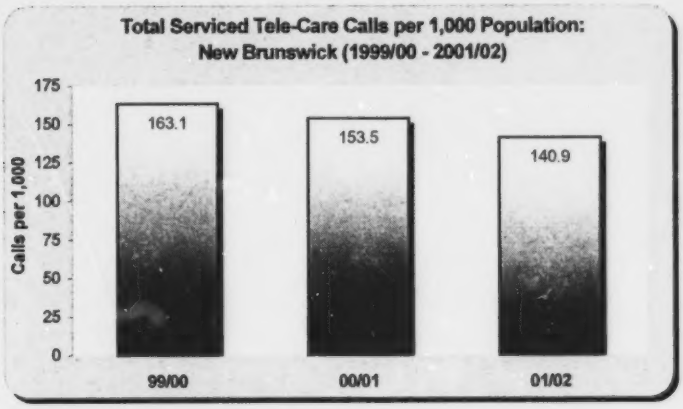
References:

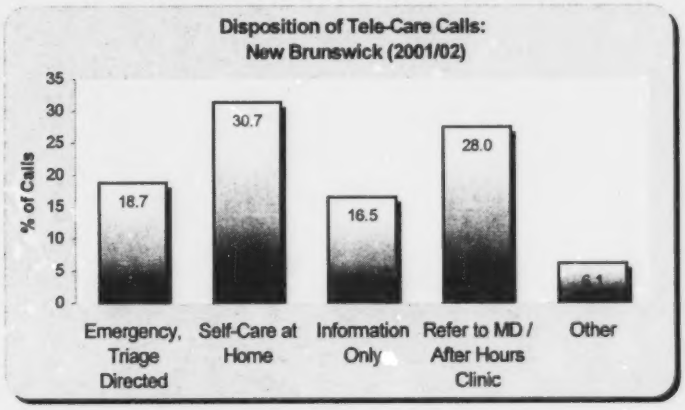
Brown AD and Anderson GM. Methods for measuring clinical utilization and outcomes. In Baker GR, Anderson GM, Brown et al (eds). The Hospital Report '99. Health Care Performance Measurement Group, University of Toronto, Toronto, 1999.

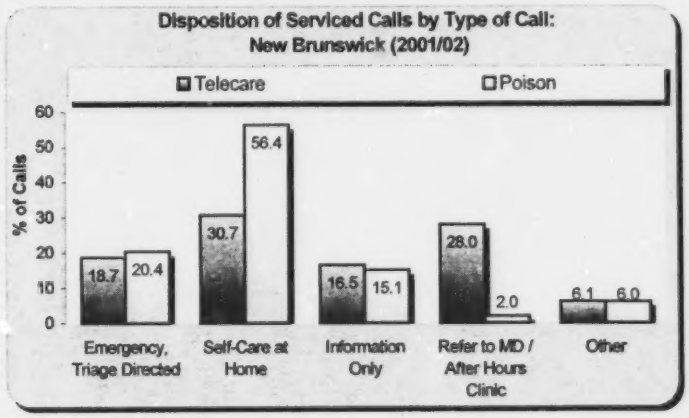
Hosmer DW, Lemeshow S. Confidence interval estimates of an index of quality performance based on logistic regression models. Statistics in Medicine, 1995; 14:2161-2172.

Hospital Report Acute Care 2001. Technical notes, Clinical Utilization and Outcomes. Canadian Institute for Health Information and the University of Toronto. A joint initiative of the Ontario Hospital Association and the Government of Ontario, 2001.

Access to 24/7 First Contact Health Services







DESCRIPTION:

This indicator provides various measures of utilization, quality and outcomes associated with New Brunswick's toll free Tele-Care service. Specific measures include, the number of calls (per 1,000 population), the average length of calls and the disposition of calls. Note that this is not one of the 67 comparable indicators that all FPT jurisdictions have agreed to report on, therefore national comparative data are not available for this indicator.

ANALYSIS:

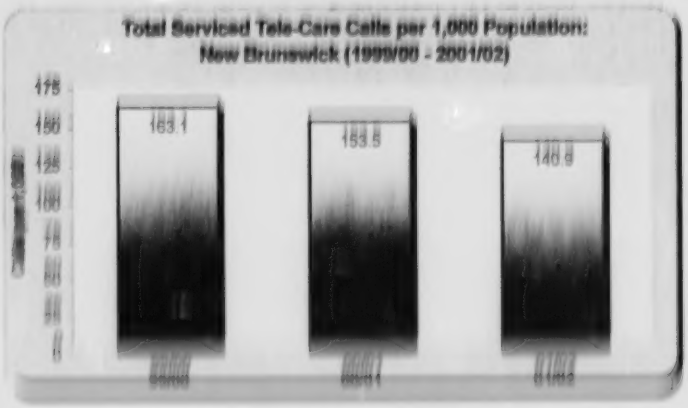
Tele-care provides 24-hour, 7-days per week, bilingual, province-wide telephone access to registered nurses for triage of symptom-related, non-urgent conditions as well as information and advice pertaining to poison control, rabies, the West Nile virus and other health concerns.

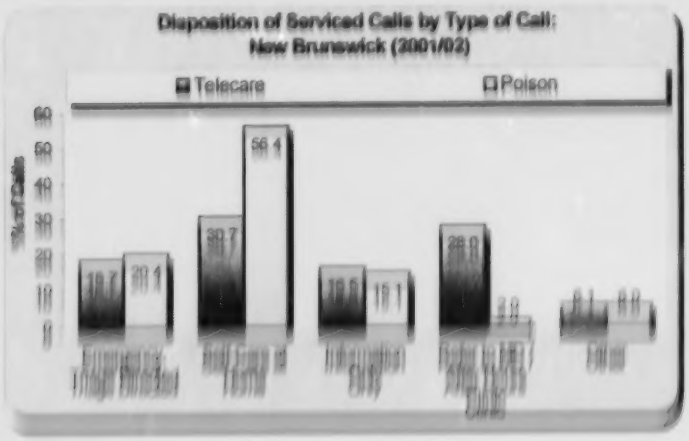
Between 1999/00 and 2001/02 the total number of calls serviced through the Tele-Care system declined by approximately 6%. In 2001/02 approximately 95% of the 106,677 calls serviced were categorized as 'Tele-Care'; slightly over 2% were related to poison control; and the remaining 3% were split between information on rabies and the West Nile virus.

In 2001/02, the majority of calls to the Tele-care service (i.e., approximately 31%) resulted in advice for self-care at home. Approximately 28% of callers were referred to their family physician or an after-hours clinic; roughly 19% were directed to an emergency service; and about 17% required information only. The remaining 6% received a variety of services including referral to EMS 911 for emergency transport (2.2%), and referral to other health care providers (1.5%). Calls related to poison were more likely to result in advice for self-care at home than were other Tele-Care calls. Conversely, poison related calls were less likely to result in referral to an MD or after hours clinic.

In 2000/01, the average length of a Tele-Care call was 11 minutes, while that of a poison related call was 10 minutes.

Access to 24/7 First Contact Health Services





DESCRIPTION:

This indicator provides various measures of utilization, quality and outcomes associated with New Brunswick's toll free Tele-Care service. Specific measures include, the number of calls (per 1,000 population), the average length of calls and the disposition of calls. Note that this is not one of the 67 comparable indicators that all FPT jurisdictions have agreed to report on; therefore national comparative data are not available for this indicator.

ANALYSIS:

Tele-Care provides 24 hour, 7 days per week, telephone access to registered nurses who provide callers with information, support, referral, non-urgent counselling as well as information and advice pertaining to poison control, rabies, the West Nile virus and other health concerns.

Between 1999/00 and 2001/02 the total number of calls serviced through the Tele-Care system declined by approximately 6%. In 2001/02 approximately 95% of the 106,677 calls serviced were categorized as 'Tele-Care'; slightly over 2% were related to poison control; and the remaining 3% were split between information on rabies and the West Nile virus.

In 2001/02, the majority of calls to the Tele-care service (i.e., approximately 31%) resulted in advice for self-care at home. Approximately 28% of callers were referred to their family physician or an after-hours clinic; roughly 19% were directed to an emergency service; and about 17% required information only. The remaining 6% received a variety of services including referral to EMS 911 for emergency transport (2.2%), and referral to other health care providers (1.6%). Calls related to poison were more likely to result in advice for self care at home than were other Tele-Care calls. Conversely, poison related calls were less likely to result in referral to an MD or after hours clinic.

In 2000/01, the average length of a Tele-Care call was 11 minutes, while that of a poison related call was 10 minutes.

Table 11 Access to 24/7 First Contact Health Services

Tele-Care Utilization:

Total Serviced Calls by Service Type, and Total Calls per 1,000 Population
(1999/00 - 2001/02)

Year	Service Type				Total Calls	Calls / 1,000
	Tele-Care	Poison	West Nile	Rabies		
1999/2000	120201	2817	0	0	123018	163.1
2000/2001	112894	2564	22	453	115933	153.5
2001/2002	101042	2483	1340	1812	106677	140.9

Tele-Care Performance:

Average Length of Call by Service Type (1999/00 - 2001/02)

Average Length of Call (minutes)

Year	Tele-Care	Poison	West Nile	Rabies
1999/2000	10.7	6.1	6.6	6.8
2000/2001	11.4	6.6	6.1	7.1
2001/2002	10.8	6.8	7.6	6.6

n.a. - Data not available

Tele-Care Outcomes: Disposition of Tele-Care Calls
(1999/00 - 2001/02)

Year	Disposition of Calls (Percentage)				
	Emergency, Triage Directed	Self-Care at Home	Information Only	After Hours Clinic	Other
1999/2000	21.2	29.2	10.5	36.2	3.0
2000/2001	18.1	31.3	12.5	34.6	3.5
2001/2002	18.7	30.7	16.5	28.0	6.1

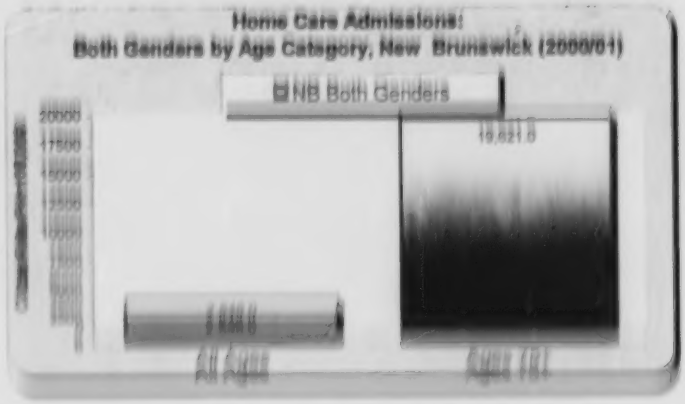
Tele-Care Outcomes: Disposition of Poison Calls
(1999/00 - 2001/02)

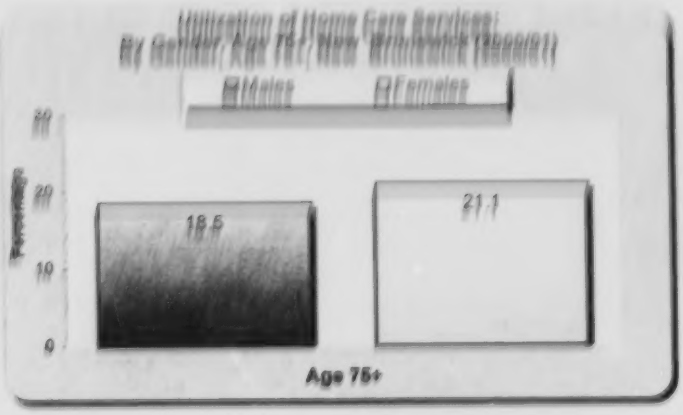
Year	Dispostion of Calls (Percentage)				
	Emergency, Triage Directed	Self-Care at Home	Information Only	After Hours Clinic	Other
1999/2000	25.8	56.7	8.8	2.8	6.1
2000/2001	20.5	55.9	13.7	2.8	7.0
2001/2002	20.4	56.4	15.1	2.0	6.0

Technical Specifications:

Definitions:	Serviced calls are calls processed and registered into the Tele-Care software by nurses; excludes calls which resulted in a service other than triaging for symptom specific reasons or information Other dispositions were referral to other health care provider, refer to EMS 911 for transport to Emergency Dept, service refused and patient not for assessment
Calculations:	Calls per 1,000 population
Numerator:	The sum of serviced calls categorized as Tele-Care, Poison, Rabies or West Nile in each fiscal year
Denominator:	The estimated New Brunswick population for each year as published by Statistics Canada in July 2002
Sources:	Institutional Services Division, New Brunswick Department of Health and Wellness

Home and Community Care Services





** **Note:** For indicator # 1 'home care admissions' include admissions to the NB Extra-Mural Program and the Department of Family and Community Services' Special Needs Children and Long-Term Care Programs. Indicator # 2 uses the same data but does not include admissions to the Special Needs Children program. These data may include multiple admissions for the same client (an individual may be counted more than once in a given fiscal year if he/she was discharged from the home care program and accepted for another period of service within that year).*

The information for the third measure comes from self-report survey data and therefore is likely to reflect a broader range of home care services than indicators # 1 and # 2.

DESCRIPTION:

This section includes three indicators: 1) Home care admissions: The number of individuals (per 100,000 population) admitted to publically funded home care services. 2) Home care admissions 75+: The number of individuals 75+ (per 100,000 75+ population) admitted to publically funded home care services and 3) Utilization of home care services: The estimated percent of the population (65-74 and 75+) receiving homemaking, nursing or respite services. Note that comparable national data are not available for these measures.

ANALYSIS:

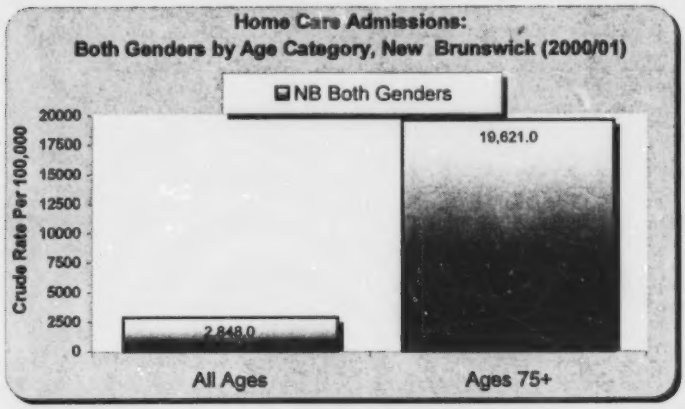
Indicator 1 demonstrates that in 2000/01, approximately 2.8% of the New Brunswick population (i.e., 2,800 per 100,000) were annually admitted to a government funded home health care or home support program. Not surprisingly, indicator 2 shows that the rate of admissions to home care services was much higher (roughly 20%) among individuals 75 years of age and over.

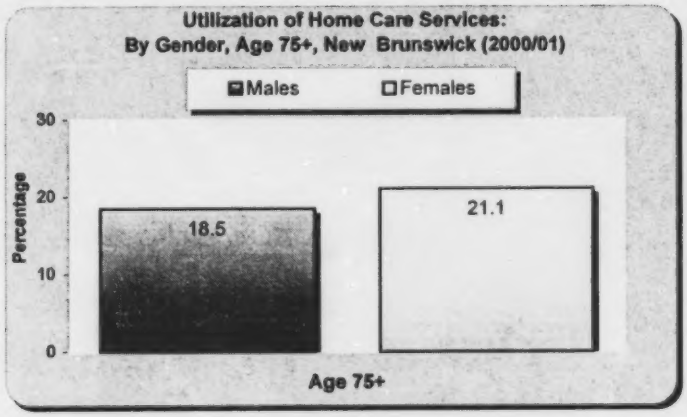
Indicator 3 shows that approximately 19% of the NB males and 21% of the NB females 75+ who were interviewed in 2000/01 reported that receiving some type of home care service in the previous year. The slightly higher utilization of home care services among females 75+ may be associated with female's longer life expectancy (i.e., on average, women in the 75+ age group are likely to be older than men in the same age group).

Although the data for measures 2 and 3 come from different sources, both measures indicate that approximately 20% of the NB population 75+ received some type of home health care or home support service in 2000/01.

Home care services enable clients to live in their home environment and maintain optimal health and well being. The need for home care services is expected to increase as the population ages.

Home and Community Care Services





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ANALYSIS:

Indicator 1 demonstrates that in 2000/01, approximately 2.8% of the New Brunswick population (i.e., 2,800 per 100,000) were formally admitted to a government funded home health care or home support program. Not surprisingly, indicator 2 shows that the rate of admissions to home care services was much higher (roughly 20%) among individuals 75 years of age and over.

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Although the data for measures 2 and 3 come from different sources, both measures indicate that approximately 20% of the NB population 75+ received some type of home health care or home support service in 2000/01.

Home care services enable clients to live in their home environment and maintain optimal health and well being. The need for home care services is expected to increase as the population ages.

Table 12.1 Admissions to Home Care Services

Home Care Admissions and Home Care Admissions 75+:
Both Genders by Age Category, New Brunswick (2000/01)
Crude Rate Per 100,000 Population

	NB Both Genders	
Year	**All Ages**	**Ages 75+**
2000/2001	2,848.0	19,621.0

Utilization of Home Care Services:
By Gender and Age Category, New Brunswick (2000/01)
Estimated % of the Population Receiving Homemaking, Nursing or Respite Services

	NB Both Genders	
Gender	**65-74**	**Ages 75+**
Males	F	18.5 E
Females	7.4 E	21.1

(E: Use with caution)
(F: Too unreliable to publish)

Technical Specifications: *Home Care Admissions*

Exclusions: *None (administrative data do not allow for exclusion of out-of-province clients)*

Numerator: *Total number of admissions to home care services (health, social and support services) for each age category during the fiscal year.*

Denominator: *Total population for each age category from census or census estimates*

Calculations: *Total admissions to home care services for each age category ÷ total population for each age category*

Source: *Ad hoc survey of provincial and territorial ministries (NB Dept. of Health and Wellness, NB Dept. of Family and Community Services), Statistics Canada census; ISQ.*

Technical Specifications: *Utilization of Home Care Services*

Exclusions: *CCHS frame exclusions; jurisdictions in which some or all regions chose not to have these optional questions included on CCHS.*

Numerator: *weighted number and percentage of individuals reporting selected types of services.*

Denominator: *total population in specified age group.*

Calculation: *(numerator/denominator) x 100*

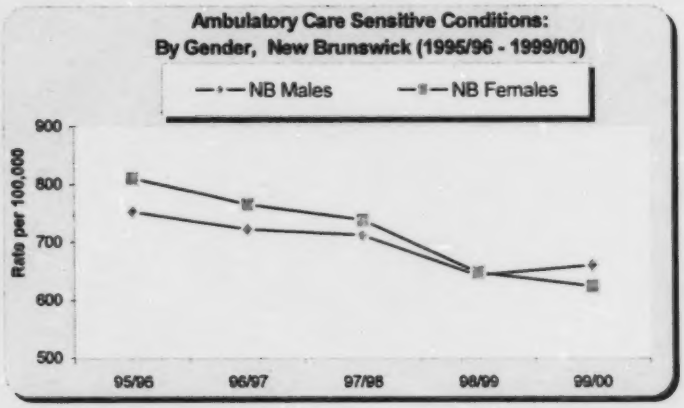
Source: Canadian Community Health Survey – Cycle 1.1 2000

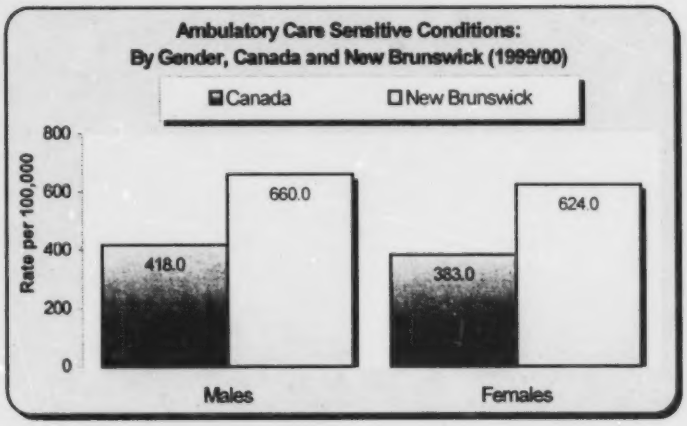
The CCHS includes the following definition for home care services: Home care services are health care or homemaker services received at home, with the cost being entirely or partially covered by government. The following survey questions are included:

Have you received any home care in the past 12 months? Yes/No

What types of services have you received? (Cost must be entirely or partially covered by government):
Nursing care (e.g., dressing changes, VON)
Other health care services (e.g., physiotherapy, nutrition counseling)
Personal care (e.g., bathing, foot care)
Housework (e.g., cleaning, laundry)
Meal preparation or delivery
Shopping
Respite care (i.e., caregiver relief program)
Other – Specify

Ambulatory Care Sensitive Conditions





DESCRIPTION:

Age standardized in-patient acute care hospitalization rate for conditions where appropriate ambulatory care (i.e., care provided in the community or on an out-patient basis) may prevent or reduce the need for admission to hospital.

ANALYSIS:

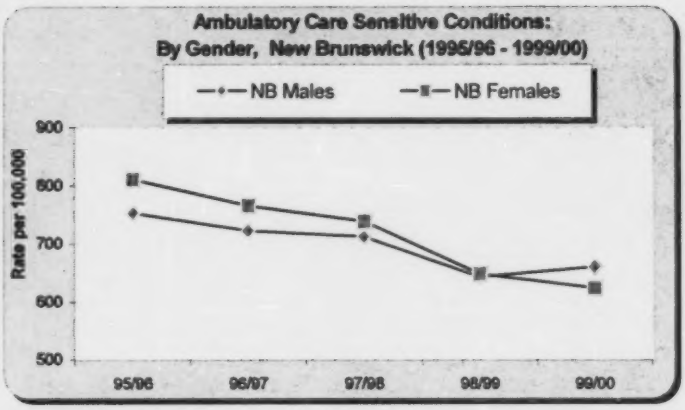
The hospitalization rate for ambulatory care sensitive conditions for New Brunswick males and females decreased substantially from 1995/96 to 1999/00. Over this time period, the rate for males fell by approximately 12%, while the rate for females declined by almost 23%.

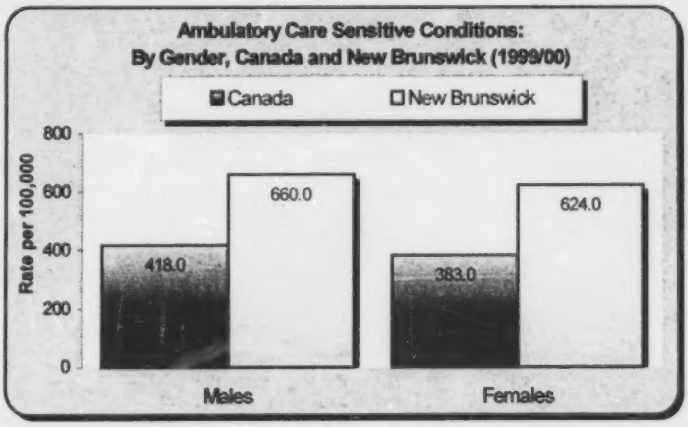
Despite the impressive declines witnessed in the late 90's, New Brunswick's rate of admissions for ambulatory care sensitive conditions remained well above the national average. In 1999/00, the admission rate for ambulatory care sensitive conditions among New Brunswick females was roughly 63% above the national average for females. Similarly, the admission rate for ambulatory care sensitive conditions in New Brunswick males was 58% above the national average.

At both the national and provincial level, the rate of admissions for ambulatory care sensitive conditions was slightly higher in males than in females, in 1999/00. For Canada as a whole, the rate for males was about 9% higher than the rate for females. In New Brunswick, in 1999/00, the rate for males was roughly 6% higher than the rate for females.

Declining rates of hospitalization for ambulatory care sensitive conditions, such as diabetes, asthma, drug/alcohol dependence, hypertension, mental health conditions and others, are an indication of appropriate access to community-based health care. Appropriately managing such conditions before hospitalization is required helps to improve both individual patient and overall community health status.

Ambulatory Care Sensitive Conditions





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Declining rates of hospitalization for ambulatory care sensitive conditions, such as diabetes, asthma, drug/alcohol dependence, hypertension, mental health conditions and others, are an indication of appropriate access to community-based health care. Appropriately managing such conditions before hospitalization is required helps to improve both individual patient and overall community health status.

Table 12.2 Ambulatory Care Sensitive Conditions

Ambulatory Care Sensitive Conditions:
By Gender, Canada and New Brunswick (1995/96 - 1999/00)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1995/1996	503.0	785.6	513.0	752.4	492.0	810.1
1996/1997	463.0	744.7	475.0	722.1	450.0	764.6
1997/1998	447.0	725.1	461.0	712.2	431.0	738.1
1998/1999	411.0	645.8	425.0	642.6	397.0	647.3
1999/2000	401.0	642.0	418.0	660.0	383.0	624.0

(n.a. – Data not available)

Technical Specifications:

Exclusions: *Patients not treated as inpatients in acute care hospitals (e.g. those seen only in an emergency department or chronic care institution).*

Numerator: *number of ACSC in-patient separations from acute care hospitals (discharges and deaths) during the year, by age and gender categories.*
Diagnosis Code(s): Based on the Alberta Health reference below, an ICD-9 or ICD-9-CM primary diagnosis code of:

250	*Diabetes mellitus*	*311*	*Depressive disorder, not elsewhere classified*
291	*Alcoholic psychoses*	*401*	*Essential hypertension*
292	*Drug psychoses*	*402*	*Hypertensive heart disease*
300	*Neurotic disorders*	*403*	*Hypertensive renal disease*
303	*Alcohol dependence syndrome*	*404*	*Hypertensive heart and renal disease*
304	*Drug dependence*	*405*	*Secondary hypertension*
305	*Non-dependent abuse of drugs*	*493*	*Asthma*

Denominator: *population by age and gender categories, either from census or census estimates, for the year*

Calculation(s): *Standardized rates are age adjusted using a direct method of standardization based on the July 1st, 1991 Canadian population.*

Source: *Hospital Morbidity Discharge Abstract Database, CIHI. Census, Statistics Canada; ISQ*

References:

Alberta Health. (1998, Dec). Health authority business plan and annual report requirements, 1999-2000 to 2001-2002, p.22. Edmonton, AB: Alberta Health

Anderson,G.M. (1996). Common conditions considered sensitive to ambulatory care. In V. Goel, J. I. Williams, G.M. Anderson, P. Blackstien-Hirsch, C. Fooks, & C.D. Naylor (eds.), Patterns of Health care in Ontario. The ICES practice atlas (2nd edition.) p.104-110. Ottawa, ON: Canadian Medical Association.

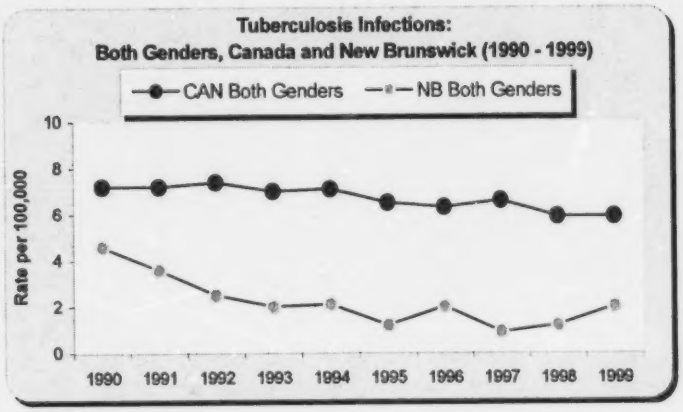
Billings, J., Anderson.G.M., & Newman, L. S. (1996, Fall). Recent findings on preventable hospitalizations. Health Affairs, 15(3), p. 239-249.

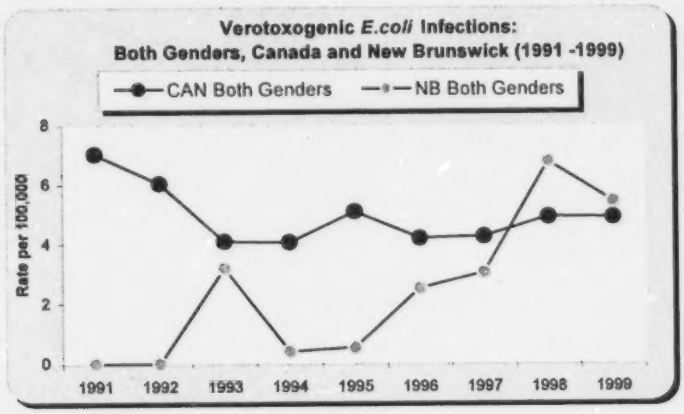
Billings, J., Zeital, L., Lukomnik, J., Carey, T. S., Blank, A. E., & Newman, L. (1993, spring). Impact of socio-economic status on hospital use in New York City. Health Affairs, p. 162-173.

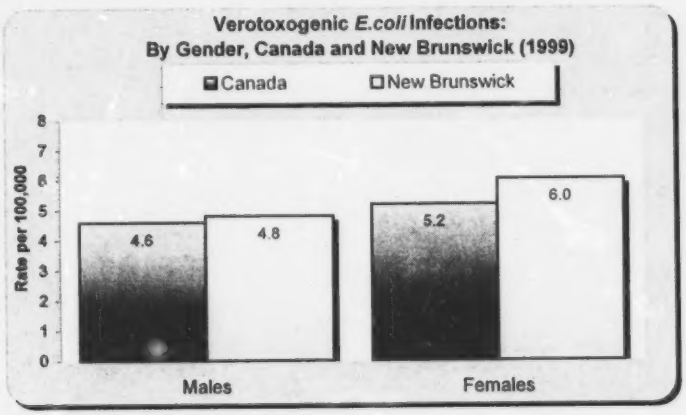
Brown, A.D., Goldacre, M.J., Hicks, N., Rourke, J.T., McMurtry, R.Y., Brown, J.D., Anderson, G.M. Hospitalization for ambulatory care-sensitive conditions: a method for comparative access and quality studies using routinely collected statistics. Canadian Journal of Public Health 2001; 92(2):155-160.

Manitoba Centre for Health Policy and Evaluation (MCHPE). Ambulatory Care Sensitive (ACS) conditions. http://www.umanitoba.ca/centers/mchpe/concept/dict/ACS_conditions.htm

Tuberculosis and Verotoxogenic *E. coli*







DESCRIPTION:

This section includes data on two indicators: (1) the number of new active and relapsed cases (per 100,000 population) of infectious pulmonary tuberculosis (TB); and (2) the number of new verotoxogenic *E. coli* (E. coli) infections per 100,000 population. Note that these rates are not age standardized.

ANALYSIS:

From 1990 to 1999, the incidence of TB showed a gradual downward trend at the national level, and declined substantially in New Brunswick. Between 1990 and 1999, the national rate fell by approximately 18%, while the New Brunswick rate fell by almost 57% over the same time period. The incidence of tuberculosis was consistently much lower in New Brunswick than in Canada as a whole. In 1999, NB's rate was 66% lower than the national average.

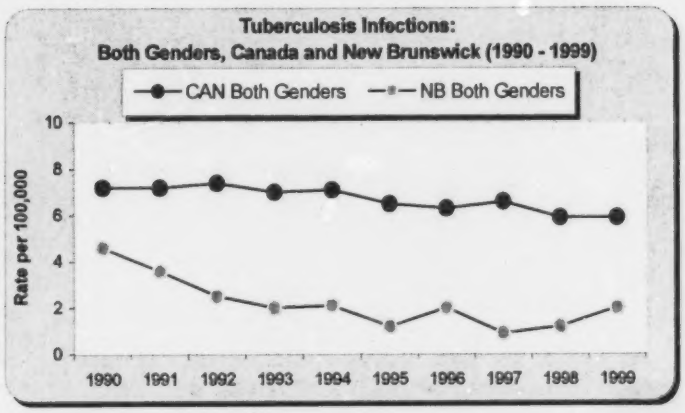
At the national level, the incidence of E. coli infections was relatively stable from 1994 to 1999. During this time period, the New Brunswick rate increased substantially. Prior to 1998, the incidence of E. coli was generally lower in New Brunswick than in Canada as a whole. However in 1998 and 1999 the NB rate surpassed the national average. In 1999, NB's E. coli rate was approximately 10% higher than the national rate.

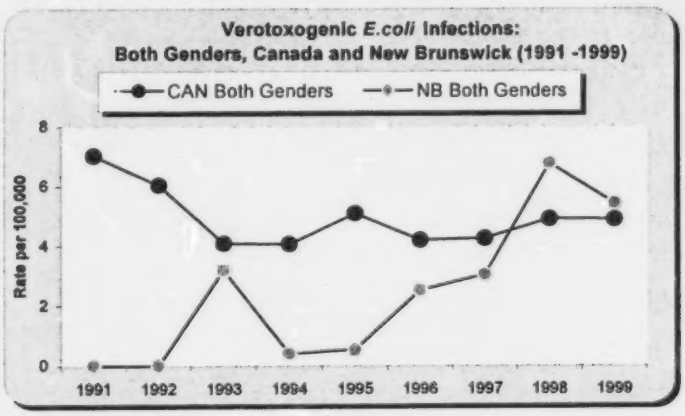
The incidence of E. coli infections tended to be slightly higher in females than males at both the national and provincial level. In 1999, the rate for Canadian females was about 13% higher than the rate for Canadian males. In New Brunswick the rate for females was 25% higher than the rate for males.

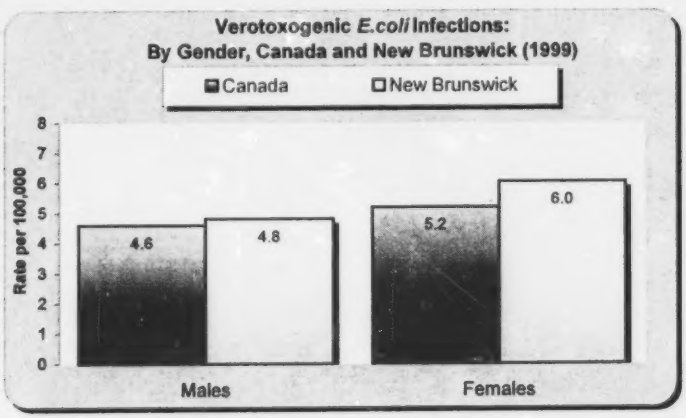
TB is an important public health problem that has become more prominent in recent years. Incidence is linked to high-risk groups such as recent immigrants, First Nations communities, and people co-infected with HIV.

E. coli is an indicator of both food and water-borne illness. Possible explanations for increases in food and water borne diseases include changing patterns of food consumption such as greater reliance on prepared and take-out foods; changes in food manufacturing, retail, distribution and storage practices; and an increased number of more susceptible individuals such as the very elderly and those with compromised immune systems.

Tuberculosis and Verotoxogenic *E. coli*







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At the national level, the incidence of E. coli infections was relatively stable from 1994 to 1999. During this time period, the New Brunswick rate increased substantially. Prior to 1998, the incidence of E. coli was generally lower in New Brunswick than in Canada as a whole. However in 1998 and 1999 the NB rate surpassed the national average. In 1999, NB's E. coli rate was approximately 10% higher than the national rate.

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E. coli is an indicator of both food and water-borne illness. Possible explanations for increases in food and water borne diseases include changing patterns of food consumption such as greater reliance on prepared and take-out foods; changes in food manufacturing, retail, distribution and storage practices; and an increased number of more susceptible individuals such as the very elderly and those with compromised immune systems.

Table 13.1 Tuberculosis Incidence Rate:
Both Genders, Canada and New Brunswick (1990 - 1999)
Rate per 100,000 Population

	Both Genders	
Year	Canada	NB
1990	7.2	4.6
1991	7.2	3.6
1992	7.4	2.5
1993	7.0	2.0
1994	7.1	2.1
1995	6.5	1.2
1996	6.3	2.0
1997	6.6	0.9
1998	5.9	1.2
1999	5.9	2.0

Table 13.2 Verotoxogenic *E.coli* Incidence Rate:
By Gender, Canada and New Brunswick (1991 - 1999)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1991	7.0	0.0	3.6	0.0	3.8	0.0
1992	6.1	0.0	4.3	0.0	5.2	0.0
1993	4.1	3.2	3.3	3.2	3.8	3.2
1994	4.1	0.4	3.6	0.3	4.5	0.5
1995	5.1	0.5	4.7	0.3	5.5	0.8
1996	4.2	2.5	4.0	2.1	4.4	2.9
1997	4.3	3.1	3.9	2.1	4.6	4.0
1998	4.9	6.8	4.4	5.1	5.4	8.4
1999	4.9	5.4	4.6	4.8	5.2	6.0

Technical Specifications:

Exclusions: *none*

Numerator (E.coli): *number of reported cases of Verotoxogenic* E. coli

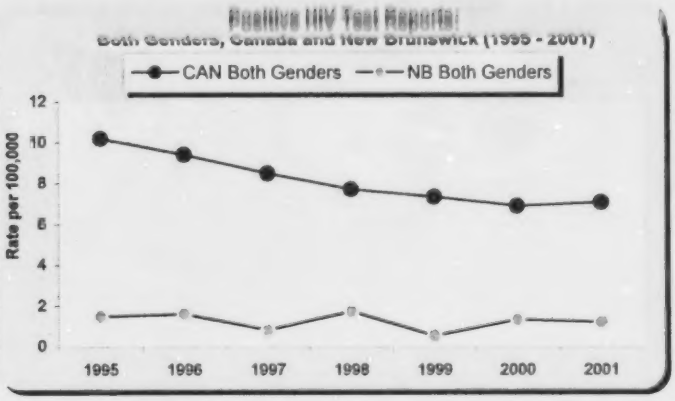
Numerator (TB): *number of reported cases of new active and relapsed TB; defined as cases with mycobacterium complex (i.e. M. tuberculosis, M. bovis, excluding BCG strain or M. africanum) demonstrated on culture or in the absence of bacteriological proof, cases clinically compatible with active tuberculosis that have, for example:*

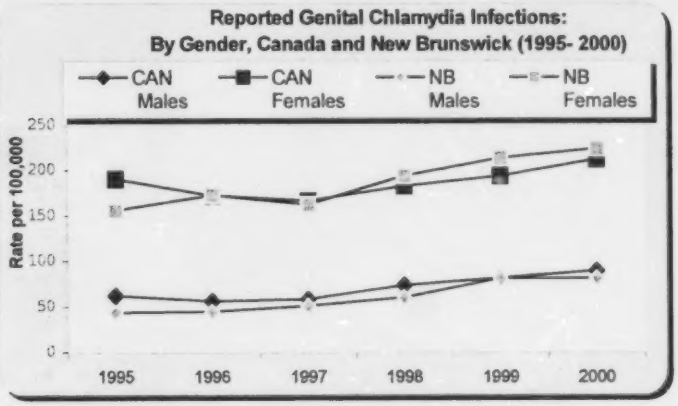
- *Chest x-ray changes compatible with active tuberculosis including idiopathic pleurisy with infusion*
- *Active extrapulmonary tuberculosis (meningeal, bone, kidney, peripheral lymph nodes, etc.)*
- *Pathologic or post-mortem evidence of active tuberculosis.*

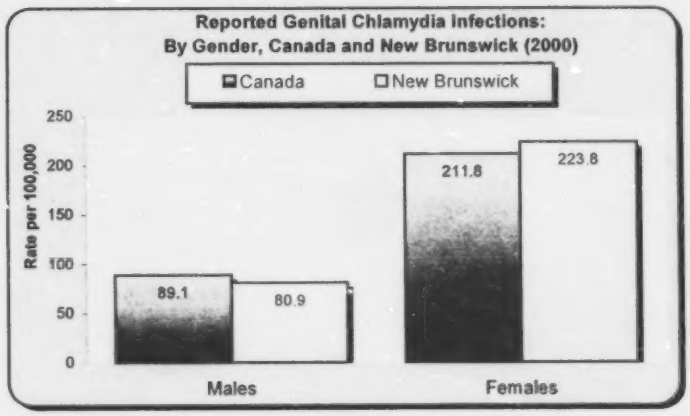
Denominator: *total population*

Calculation: *numerator/denominator x 100,000*

Source: *notifiable disease records / Canadian Tuberculosis Reporting System (CTBRS)*







DESCRIPTION

The estimated number (per 100,000 population) of new cases of HIV infection based on new positive HIV test reports, or Chlamydia, based on reported genital infections. Note that these rates are not age standardised.

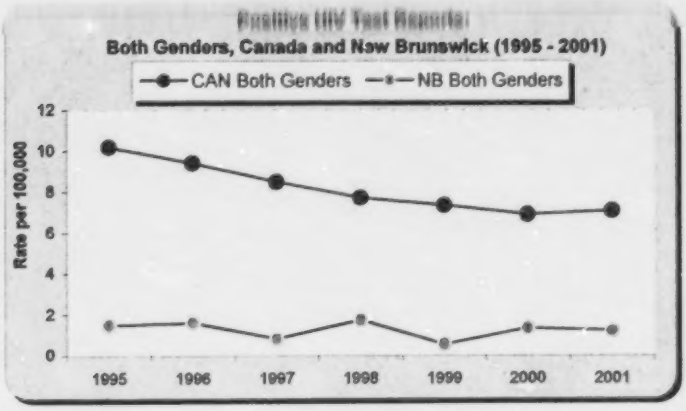
ANALYSIS:

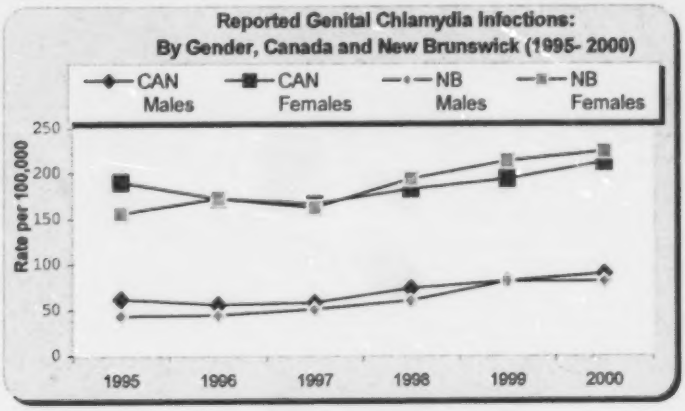
Between 1995 and 2000 there was a steady decline in the rate of newly diagnosed HIV infections in Canada. However, this declining trend slowed in recent years and as of 2001 appears to have reversed. There was little overall change in the incidence of HIV in New Brunswick between 1995 and 2001. New Brunswick's HIV incidence rate has historically been much lower than the national rate. In 2001, HIV incidence in New Brunswick was 83% lower than the rate for Canada as a whole.

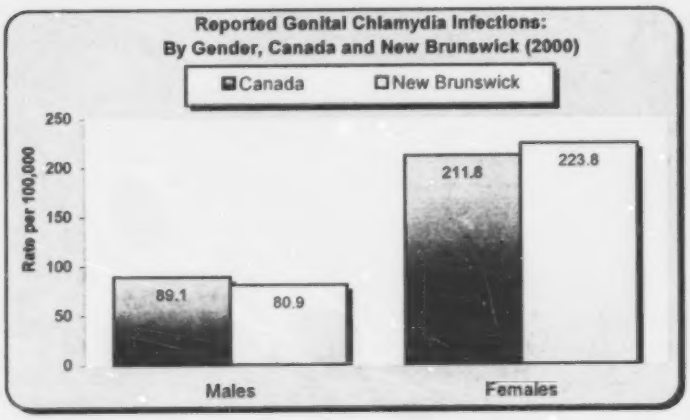
The rate of new Chlamydia infections increased in both males and females between 1995 and 2000. At the national level, the incidence of Chlamydia increased by approximately 11% in females and 44% in males. A more substantial upward trend was observed in New Brunswick, where the rate increased by roughly 44% in females and 86% in males, from 1995 to 2000.

In 2000, the rate of new Chlamydia cases in Canadian females was 137% higher than the rate for Canadian males. In New Brunswick this gender gap was slightly larger with the rate for NB females being almost 177% greater than the rate for NB males. In 2000, there was little difference between the national and provincial rates for either males or females.

The number of new HIV and Chlamydia infections reported in a given year is a function of both the underlying incidence of the disease and testing patterns. There have been substantial changes in testing practices in recent years, including greater access to anonymous HIV testing and the introduction of a new diagnostic test for Chlamydia in 1997. Therefore year to year changes in the rates of these diseases must be interpreted with caution. However, the leveling off of the decline in HIV incidence coupled with the continuing increase in Chlamydia infections suggests a need for renewed emphasis on primary prevention of sexually transmitted diseases.







DESCRIPTION:

The estimated number (per 100,000 population) of new cases of HIV infection based on new positive HIV test reports, or Chlamydia, based on reported genital infections. Note that these rates are not age standardised.

ANALYSIS:

Between 1995 and 2000 there was a steady decline in the rate of newly diagnosed HIV infections in Canada. However, this declining trend slowed in recent years and as of 2001 appears to have reversed. There was little overall change in the incidence of HIV in New Brunswick between 1995 and 2001. New Brunswick's HIV incidence rate has historically been much lower than the national rate. In 2001, HIV incidence in New Brunswick was 83% lower than the rate for Canada as a whole.

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Table 13.3 Positive HIV Test Reports:
Both Genders, Canada and New Brunswick (1995 - 2001)
Rate per 100,000 Population

	Both Genders	
Year	Canada	NB
1995	10.18	1.46
1996	9.39	1.59
1997	8.47	0.80
1998	7.70	1.73
1999	7.34	0.53
2000	6.89	1.32
2001	7.06	1.19

Table 13.4 Reported Genital Chlamydia Infections:
By Gender, Canada and New Brunswick (1995 - 2000)
Rate per 100,000 Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1995	126.8	94.7	62.0	43.5	190.4	155.9
1996	114.8	109.3	56.0	44.5	172.4	172.8
1997	112.7	107.5	58.1	50.7	166.2	162.3
1998	128.8	127.5	73.6	60.1	182.9	193.8
1999	138.2	150.5	81.4	84.6	193.7	213.4
2000	151.1	153.1	89.1	80.9	211.8	223.8

Technical Specifications:

Exclusions: *None*

Numerator (HIV): *Number of newly diagnosed cases of HIV infection*

Numerator (Chlamydia): *Reported cases of genital Chlamydia infection*

Denominator (HIV): *Total population*

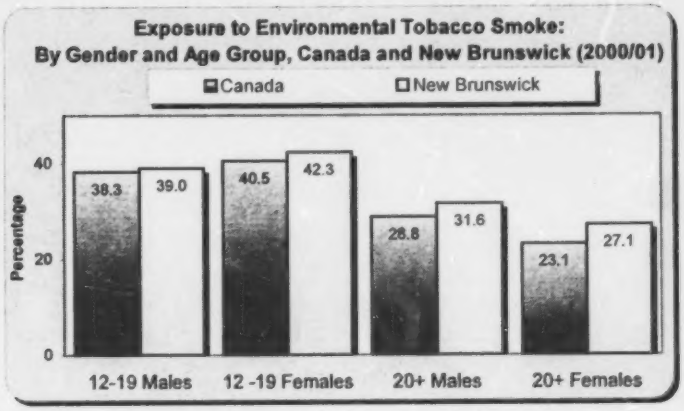
Denominator (Chlamydia): *Total population by age group*

Calculation: *Numerator/denominator x 100,000*

Source (Chlamydia): *Notifiable disease reports*

Source (HIV): *Health Canada. HIV and AIDS in Canada: Surveillance Report to Dec. 31, 2001. Division of HIV/AIDS Epidemiology and Surveillance*

Exposure to Environmental Tobacco Smoke



DESCRIPTION:

The proportion of non-smokers who reported being regularly exposed to environmental tobacco smoke in Canada / New Brunswick.

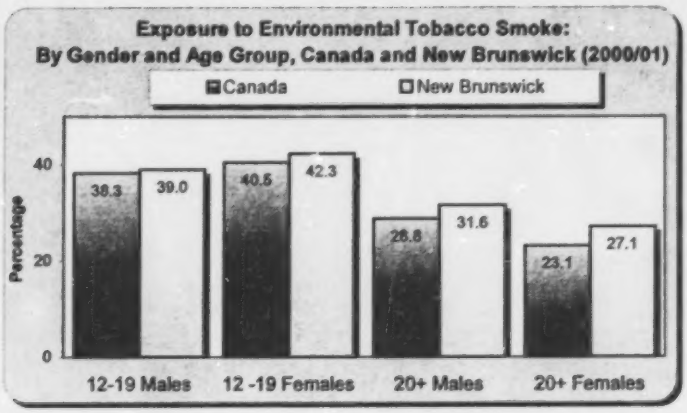
ANALYSIS:

Non-smoking New Brunswickers were more likely to report being regularly exposed to environmental tobacco smoke than were non-smoking Canadians in general. The percentage of non-smokers who reported exposure to environmental tobacco smoke in both the 12 - 19 and 20+ age groups was slightly higher in New Brunswick than in Canada as a whole.

At both the national and provincial levels, youth aged 12 - 19 were more likely than older non-smokers to report being exposed to environmental tobacco smoke. Female youth were slightly more likely than male youth to report being exposed to environmental tobacco smoke. Among older individuals, this pattern was reversed, with males being more likely than females to report exposure to environmental tobacco smoke. These gender differences in exposure to environmental tobacco smoke were similar at the national and provincial level.

The relationship between environmental tobacco smoke and adverse health effects is well accepted. Besides being a known mucous membrane irritant, environmental tobacco smoke exposure is linked to increases in mortality from lung cancer and cardiovascular disease. Environmental tobacco smoke has serious consequences for children: smoking mothers bear children with lower birth weights, and children living in homes where they are exposed to tobacco smoke have higher rates of asthma and respiratory tract problems. There is strong evidence of an association between exposure to environmental tobacco smoke and respiratory illness.

Exposure to Environmental Tobacco Smoke



DESCRIPTION:

The proportion of non-smokers who reported being regularly exposed to environmental tobacco smoke in Canada / New Brunswick.

ANALYSIS:

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Table 13.5 Exposure to Environmental Tobacco Smoke

Self-Reported Exposure to Environmental Tobacco Smoke:
By Gender and Age Group, Canada and New Brunswick (2000/01)
Percentage of Non-Smokers Reporting Regular Exposure

	Both Genders		Males		Females	
Age Groups	**Canada**	**NB**	**Canada**	**NB**	**Canada**	**NB**
Ages 12-19	39.3	40.6	38.3	39.0	40.5	42.3
Ages 20+	25.8	29.2	28.8	31.6	23.1	27.1

Technical Specifications:

Exclusions: *None*

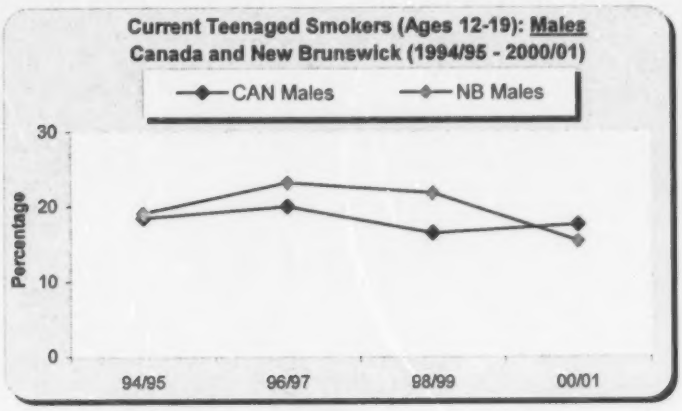
Numerator: *Total number of non-smoking persons reporting exposure to environmental tobacco smoke in Canada/New Brunswick.*

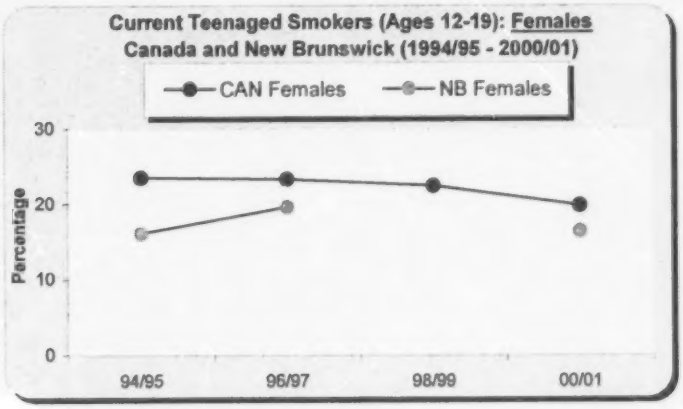
Denominator: *Total non-smoking population*

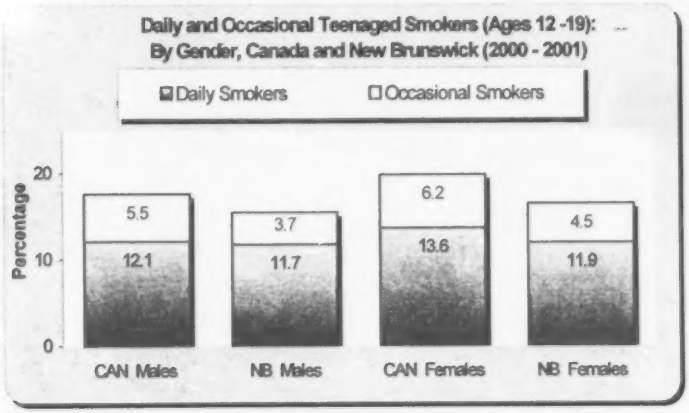
Calculation: *Numerator/Denominator X 100*

Source: *Canadian Community Health Survey*

Smoking







DESCRIPTION:

Percentage of teenagers (aged 12 to 19) who reported smoking cigarettes daily or occasionally.

ANALYSIS:

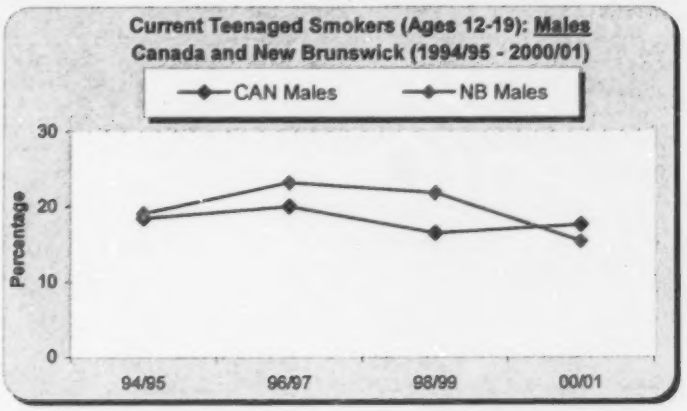
Over the period from 1994/95 to 2000/01 there was no substantial upward or downward trend in the male teenage smoking rate at the national level, but some evidence of a declining trend at the provincial level. The male teenage smoking rate for NB in 2000/01 was approximately 19% lower than the lowest rate observed over the previous six years (i.e., 94/95). However, given the considerable variability in male teenage smoking rates this finding should be interpreted with caution.

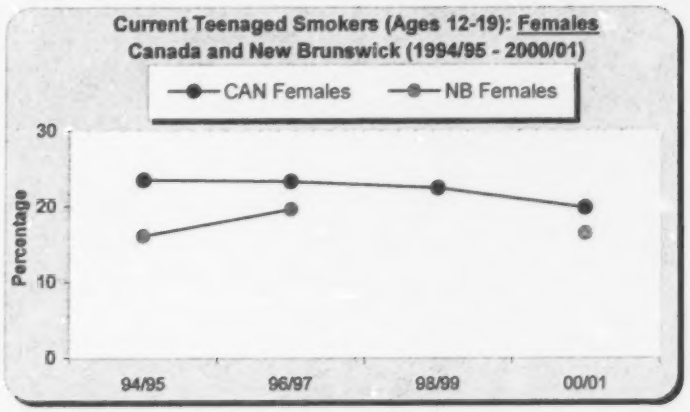
Among teenage females, there was a consistent downward trend at the national level. Between 1994/95 and 2000/01 the teenage smoking rate for Canadian females fell by roughly 16%. At the provincial level, there was no evidence of any substantial change in the female teenage smoking rate between 1994/95 and 2000/01.

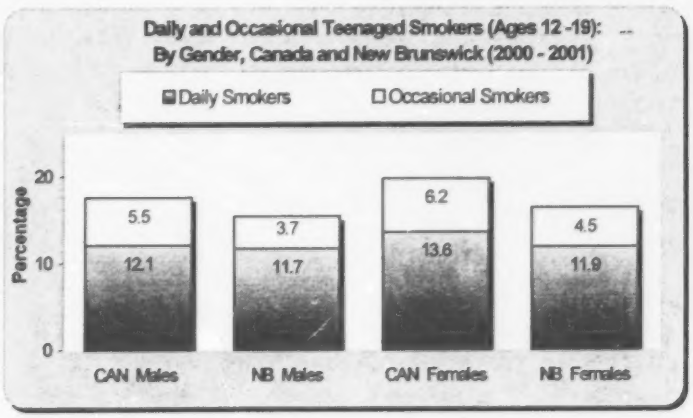
In 2000/01, the male teenage smoking rate in New Brunswick was about 13% lower than the national average. However, on average over the period from 1994/95 to 2000/01, the rate for NB males was roughly 10% higher than the comparable national average. The teenage smoking rate for NB females, on the other hand, was consistently lower than that of Canadian teenage females. On average, over the period from 1994/95 to 2000/01, the rate for NB females was almost 22% below the comparable national rate.

In 2000/01, New Brunswick male and female teenagers reported similar rates of daily smoking, while females had a slightly higher rate of occasional smoking. In comparison to the 2000/01 national rates, both male and female teenagers in New Brunswick were less likely to report occasional smoking.

Smoking







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ANALYSIS:

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In 2000/01, New Brunswick male and female teenagers reported similar rates of daily smoking, while females had a slightly higher rate of occasional smoking. In comparison to the 2000/01 national rates, both male and female teenagers in New Brunswick were less likely to report occasional smoking.

Table 14.1 Smoking

Current (Daily and Occasional) Teenaged Smokers (Ages 12-19):
By Gender, Canada and New Brunswick (1994/95 - 2000/01)
Percentage

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1994/1995	20.9	17.6 E	18.5	19.1 E	23.5	16.1 E
1996/1997	21.6	21.5 E	20.0	23.2 E	23.3	19.6 E
1998/1999	19.4	22.6 E	16.5	21.8 E	22.4	F
2000/2001	18.7	15.9	17.6	15.4	19.8	16.4

(F: Too unreliable to be published)
(E: Use with caution)

Daily Teenaged Smokers (Ages 12-19):
By Gender, Canada and New Brunswick (2000/01)
Percentage

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
2000/2001	12.9	11.8	12.1 E	11.7	13.6	11.9 E

(E: Use with caution)

Technical Specifications:

The data are based on the question: At the present time do you smoke cigarettes daily, occasionally or not at all?

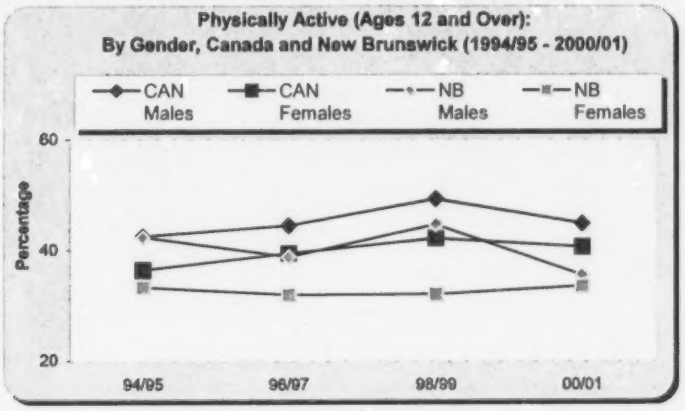
Exclusions: *refer to survey frame exclusions*

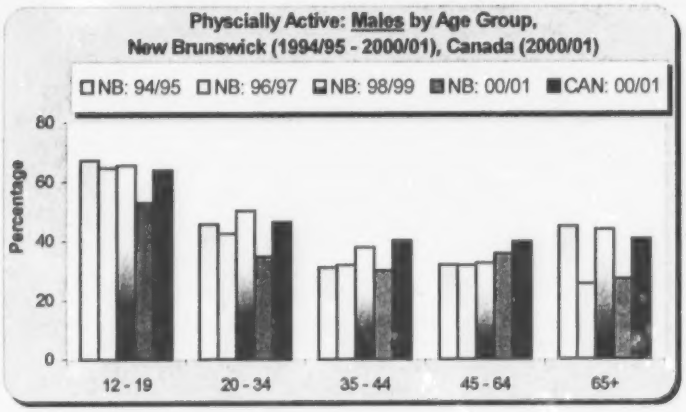
Numerator: *weighted number of individuals aged 12-19 who report: (a) currently smoking; (b) daily smoking*

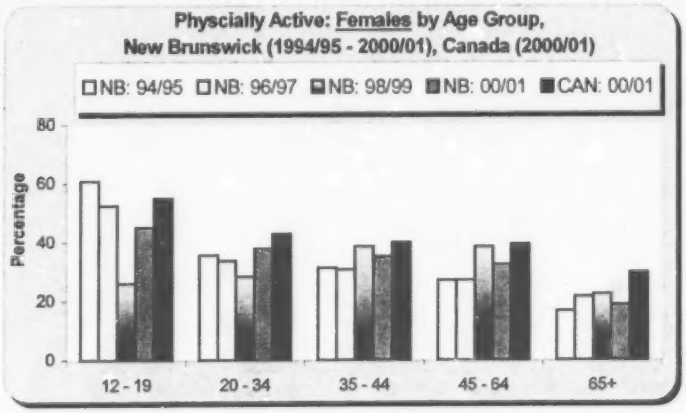
Denominator: *total population aged 12-19*

Calculation: *(Numerator/denominator) x 100*

Source: *Canadian Community Health Survey; National Population Health Survey, 1994, 1996, 1998; ISQ*







DESCRIPTION:

The percentage of the population 12 and over, classified as either "physical active" or "physically inactive". Individuals were categorized as being active, moderately active, or inactive, based on their self-reported physical activity habits at the time they were surveyed. Individuals in the active and moderately active categories were classified as "physically active", while those in the inactive category were classified as "physically inactive". Note that due to missing information on the exercise habits of some survey participants, the active and inactive percentage of the population does not sum to 100%.

ANALYSIS:

Between 1994/95 and 2000/01 there was little overall change in the physical activity levels of the Canadian or New Brunswick populations, with the exception of a slight upward trend in the percentage of Canadian females who were physically active. The percentage of Canadian females who were physically active increased from 36.4% in 94/95 to 40.6% in 2000/01. In Canadian and New Brunswick males as well as New Brunswick females, there was no substantial upward or downward trend during this period.

There was considerable variability in the physical activity rates for New Brunswickers in various age categories from 1994/95 to 2000/01, but with the exception of 12 - 19 year olds, there were no substantial upward or downward trends in any of the age groups. In 12 - 19 year old males and females, there was an overall decline in the percentage of the population categorized as physically active. Between 1994/95 and 2000/01 the percentage of 12-19 year old males categorized as physically active fell from 67.4% to 52.9%, while the percentage of physically active teenage females fell from 60.8% to 45%.

As would be expected, physical activity levels in 2000/01 were highest in the youngest age category and lowest in the oldest age group. In the three age categories between ages 20 and 64, physical activity levels tended to decrease gradually with age, but differences between the age groups were not substantial.

Table 14.2.1 Physical Activity Level (Ages 12 and Over):
By Gender, Canada and New Brunswick (2000/01)
Percentage of Population

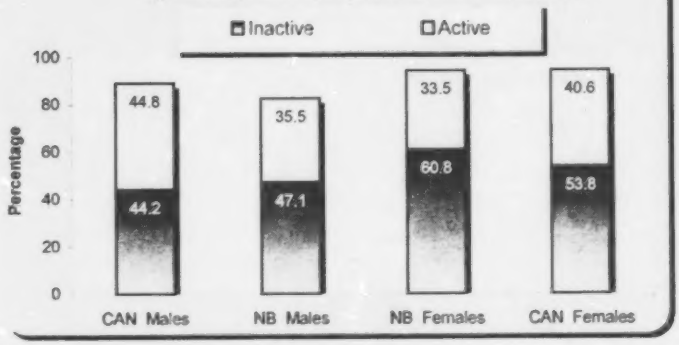
Distribution	CAN Both Genders	NB Both Genders	CAN Males	NB Males	CAN Females	NB Females
Total Physically Active	42.6	34.5	44.8	35.5	40.6	33.5
Physically Active	21.0	15.5	23.7	17.8	18.4	13.4
Moderately Active	21.6	19.0	21.1	17.7	22.1	20.1
Physically Inactive	49.1	54.1	44.2	47.1	53.8	60.8

Total Physically Active:
By Gender and Age Groups, Canada and New Brunswick (1994/95 - 2000/01)
Percentage of Population

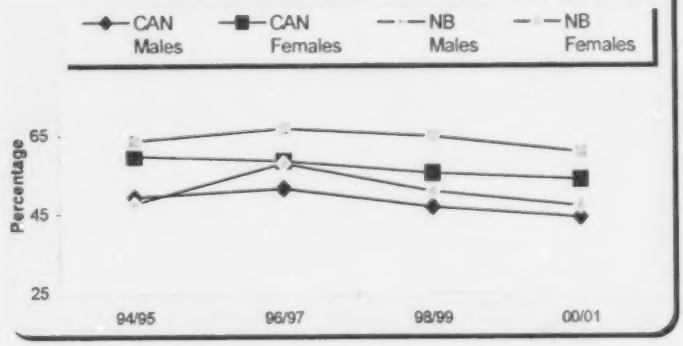
Age Groups By Year	CAN Both Genders	NB Both Genders	CAN Males	NB Males	CAN Females	NB Females
1994/1995						
12 and Over	39.4	37.7	42.5	42.3	36.4	33.3
12-19	57.8	64.2	64.5	67.4	50.4	60.8
20-34	39.4	40.5	43.3	45.7	35.8	35.5
35-44	35.8	31.1	37.5	31.0 E	34.0	31.2
45-64	36.0	29.5	35.4	31.9	36.5	27.0
65+	32.1	28.7	37.2	45.0 E	28.3	16.6 E
1996/1997						
12 and Over	41.9	35.3	44.4	38.8	39.4	31.9
12-19	61.5	59.0	68.5	64.7	54.1	52.4 E
20-34	44.2	37.9	46.1	42.5	42.3	33.6
35-44	38.3	31.2	38.3	31.8 E	38.4	30.6 E
45-64	37.6	29.4	38.2	31.8	37.0	27.1 E
65+	32.1	23.3	37.7	25.6 E	27.7	21.5 E
1998/1999						
12 and Over	45.5	38.2	49.2	44.6	42.1	32.0
12-19	59.4	49.6	65.9	65.6	52.5	26.1 E
20-34	48.7	38.4	52.2	50.2	45.3	28.3
35-44	43.0	38.2	46.0	37.9	39.9	38.5
45-64	43.0	35.5	44.1	32.5	42.0	38.4
65+	35.9	31.6	41.4	43.8	31.6	22.4 E
2000/2001						
12 and Over	42.6	34.5	44.8	35.5	40.6	33.5
12-19	59.5	49.0	63.9	52.9	54.8	45.0
20-34	44.5	36.2	46.4	34.7	42.7	37.8
35-44	40.0	32.7	40.1	30.0	39.9	35.2
45-64	39.5	34.1	39.7	35.8	39.3	32.5
65+	34.5	22.4	40.6	27.2	29.7	18.8

(E: Use with caution)

Physcially Activity Rating (Ages 12 and Over): By Gender, Canada and New Brunswick (2000/01)



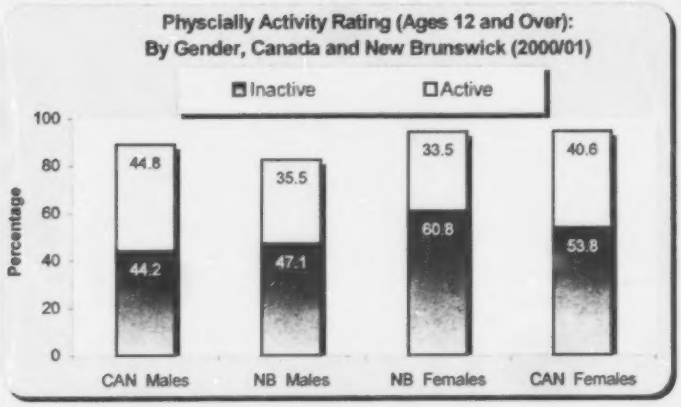
Physically Inactive (Ages 12 and Over): By Gender, Canada and New Brunswick (1994/95 - 2000/01)



In 2000/01, the percentage of the New Brunswick population categorized as physically active was well below the Canadian average. This difference occurred in both males and females and was apparent in every age category. Conversely, the percentages of New Brunswick males and females categorized as inactive were above the respective national rates in 2000/01. The difference in inactivity levels was more pronounced in females than in males, however it should be noted that a physical activity rating was missing for roughly 17% of New Brunswick males.

At both the national and the provincial level, a higher percentage of males than females were categorized as physically active. This gender gap was most pronounced in the youngest and oldest age categories.

After showing a increase between 94/95 and 96/97, there was a consistent decline in the percentage of males and females classified as inactive both provincially and nationally. In the case of Canadian females, the falling trend in inactivity between 94/95 and 00/01 would appear to be the complement of the increasing trend in physical activity. However in the absence of a consistent upward trend in physical activity in Canadian males, New Brunswick males or New Brunswick females, it is unclear whether the declining trends in physical inactivity in these groups represent positive changes in health behaviors or greater reluctance of survey participants to report on their exercise habits.



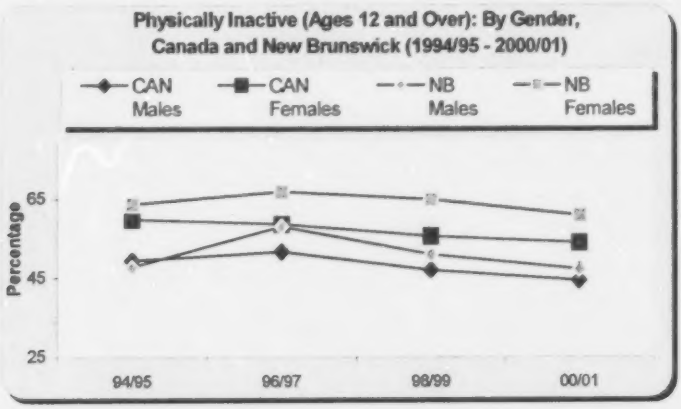


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Table 14.2.2 Total Physically Inactive:
By Gender and Age Groups, Canada and New Brunswick (1994/95 - 2000/01)
Percentage of Population

Age Groups By Year	CAN Both Genders	NB Both Genders	CAN Males	NB Males	CAN Females	NB Females
1994/1995						
12 and Over	54.6	55.8	49.3	47.7	59.8	63.6
12-19	31.5	24.9	23.1	F	40.7	32.6 E
20-34	55.6	53.0	50.0	44.1	61.0	61.6
35-44	59.8	61.8	55.9	57.1	63.8	66.6
45-64	59.1	66.0	57.3	62.4	60.9	69.5
65+	60.6	67.2	52.0	46.6	67.1	82.5
1996/1997						
12 and Over	55.1	62.5	51.6	58.0	58.5	66.8
12-19	33.6	37.7	25.3	33.4 E	42.3	42.8 E
20-34	54.0	60.3	51.4	54.4	56.5	65.7
35-44	59.8	67.9	59.3	66.3	60.3	69.4
45-64	59.7	68.7	58.0	65.2	61.5	72.3
65+	61.5	72.4	53.8	67.2	67.4	76.4
1998/1999						
12 and Over	51.3	57.9	46.9	50.8	55.5	64.8
12-19	33.3	36.9 E	25.5	24.6 E	41.5	54.7
20-34	49.8	59.6	46.5	48.4	53.0	69.2
35-44	55.2	61.5	51.1	61.5	59.3	61.5
45-64	54.7	62.2	53.1	64.0	56.4	60.4
65+	58.0	62.5	50.0	43.5	64.2	76.8
2000/2001						
12 and Over	49.1	54.1	44.2	47.1	53.8	60.8
12-19	27.7	29.9	21.1	22.3	34.6	37.9
20-34	47.2	52.0	42.9	46.5	51.6	57.7
35-44	53.3	57.7	50.0	54.6	56.6	60.6
45-64	53.6	56.7	50.8	49.0	56.4	64.2
65+	56.1	68.3	46.1	57.6	63.8	76.4

(F: Too unreliable to be published)
(E: Use with caution)

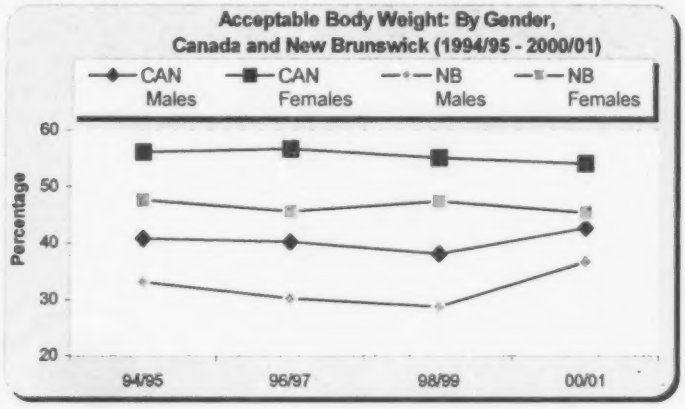
Technical Specifications:

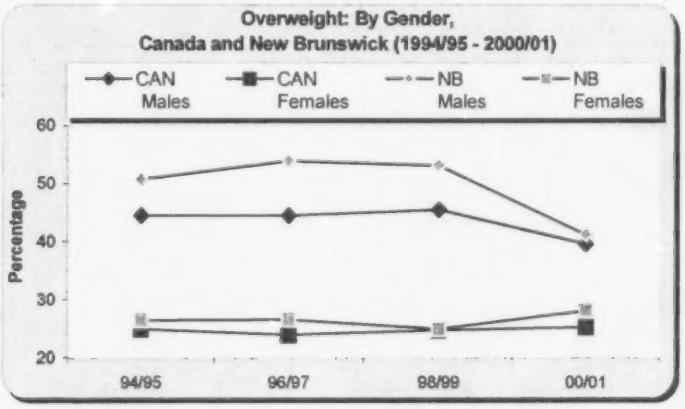
Exclusions: *Survey frame exclusions*
Numerator: *a) Number of individuals reporting an active or moderate (see definition below) level of physical activity*
b) Number of individuals reporting an inactive level of physical activity
Denominator: *Total Canadian population aged 12 and over*
Calculation: *(numerator/denominator) x 100*
Source: *Canadian Community Health Survey – Cycle 1.1, 2000*
National Population Health Survey, 1994, 1996, 1998; ISQ

The physical activity index is based on an individual's energy expenditure (EE). EE is calculated using the frequency and duration per session of physical activity, as well as the MET (metabolic) value. The MET is the energy cost of the activity expressed as kilocalories expended per kilogram of body weight per hour of activity, doing a physical activity during the past three months, the number of times and time spent on each activity. A physical activity index is calculated to determine energy expenditure values (EE). The derived physical activity index results in the following categories:

Categories	***Definition***
Active	*Average 3.0 +kcal/kg/day of energy, or exercise required for cardiovascular health benefit*
Moderate	*Average 1.5-2.9 kcal/kg/day, some health benefits but little cardiovascular*
Inactive	*Energy expenditure below 1.5 kcal/kg/day*

Body Weight





DESCRIPTION:

Percent of adults (20 to 64 years of age excluding pregnant females) with a computed body mass index in specified categories, ranging from underweight to obese. Body mass index (BMI) is calculated as weight (in Kilograms) divided by height (in meters squared). Height and weight information for the calculation of BMI was obtained through self-report surveys. Due to different rates of growth for individuals under 20 years of age, the standard BMI is not considered a suitable indicator for this group. It should be noted that the reported figures do not include individuals living in institutions, on First Nations reserves or on Canadian Forces bases.

ANALYSIS:

Between 1994/95 and 2000/01, there was some year to year fluctuation, but little overall change in the percentage of New Brunswick or Canadian males and females with an acceptable body weight. The percentages of New Brunswick males and females with an acceptable body weight were consistently below the comparable national averages. At both the national and provincial level, the percentage of males with an acceptable body weight was consistently below that for females. On average, about 40% of Canadian males had an acceptable body weight compared to roughly 56% of Canadian females. In New Brunswick, the comparable averages were 32% for males and 47% for females.

Between 1994/95 and 2000/01, the percentage of males and females who were overweight changed very little at either the national or provincial level. However, in the 2000/01 measurement period, the percentage of New Brunswick and Canadian males who were overweight fell sharply, while the percentage of NB and Canadian females categorized as overweight increased. The sharp decline in the percentage of NB and Canadian males calssified as overweight is partially explained by an increase in the percentage of men who were classified as having an acceptable body weight, plus an increase in the percentage who were classified as obese. Additionally, it should be noted that the male survey sample in 2000/01 was approximately five times larger than the male sample from the previous measurement periods. The increased sample size in 2000/01 may have contributed to some of the relatively large differences observed between 1998/99 and 2000/01.

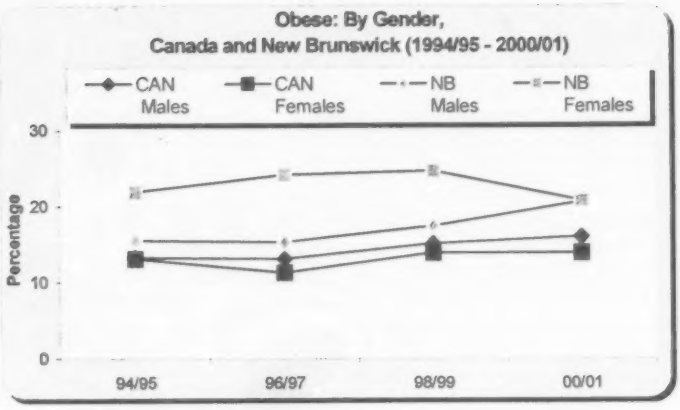
On average from 1994/95 to 2000/01, the percentage of NB males who were overweight was roughly six percentage points higher than the average for Canadian males. The percentage of NB and Canadian females who were overweight was much closer, with the average rate for NB females being less than two percentage points higher than the national rate. On average, the percentage of Canadian males who were overweight was almost 19 percentage points higher than the rate for females. In NB this gender gap was even larger with the rate for males being 23 percentage points higher than the rate for females.

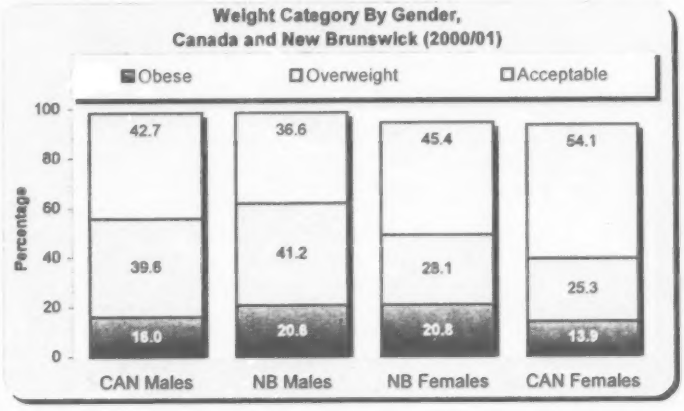
Table 14.3.1 Acceptable Weight - Body Mass Index 18.5 - 24.9:
(Ages 20 to 64) By Gender, Canada and New Brunswick (1994/95 - 2000/01)
Percentage of Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1994/1995	48.4	40.3	40.8	33.1	56.1	47.6
1996/1997	48.4	37.9	40.2	30.2	56.7	45.6
1998/1999	46.6	38.3	38.1	28.7	55.1	47.4
2000/2001	48.3	41.0	42.7	36.6	54.1	45.4

Table 14.3.2 Overweight - Body Mass Index 25.0-29.9:
(Ages 20 to 64) By Gender, Canada and New Brunswick (1994/95 - 2000/01)
Percentage of Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1994/1995	34.9	38.8	44.5	50.8	25.0	26.5
1996/1997	34.4	40.2	44.5	53.9	24.0	26.6
1998/1999	35.1	38.5	45.5	53.1	24.8	25.0
2000/2001	32.5	34.7	39.6	41.2	25.3	28.1



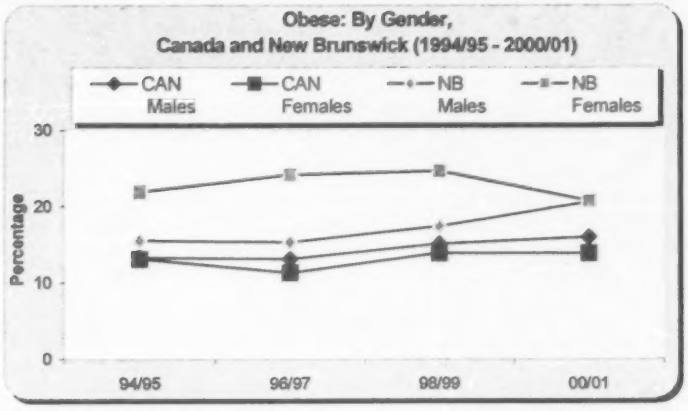


The rate of obesity increased in Canadian males and females as well as in New Brunswick males between 1994/95 and 2000/01. The obesity rate in New Brunswick females increased from 94/95 to 98/99, but declined sharply in the 00/01 measurement period. The most dramatic increase in obesity levels was seen in New Brunswick males, where the rate increased from 15.5% in 94/95 to 20.6% in 2000/01.

In 2000/01 the percentage of New Brunswick males and females categorized as obese was virtually the same, and the percentage of Canadian males categorized as obese was only slightly higher than the percentage for Canadian females. However, in comparison to the respective Canadian averages, New Brunswick males and females had a substantially higher rate of obesity. NB males and females were also more likely to be categorized as overweight than Canadian males and females. Conversely, in comparison to the nation as a whole, a substantially lower percentage of the New Brunswick male and female population fell into the acceptable weight category.

The percentage of the national population categorized as underweight was approximately 2.6% in 2000/01, with the underweight rate being roughly four times higher in females than in males (i.e., 4.2% vs. 1.1%). The percentage of New Brunswickers categorized as underweight was slightly more than half of the national average (i.e., 1.6% vs. 2.6%) and the percentage of NB females categorized as underweight was approximately half of the rate for Canadian females.

It should be noted that the BMI rates reported here are not age standardized and that overweight and obesity rates tend to increase with age. Therefore, the difference between the New Brunswick rates and the national averages, as well as some of the increase in overweight and obesity rates observed over time may be partially attributable to the aging of the population and the higher average age of the NB population. However the magnitude and consistency of the difference observed between the NB and national rates suggest that even after the effects of age differences have been taken into account, New Brunswickers are, on average, more likely to be obese or overweight than Canadians on average.



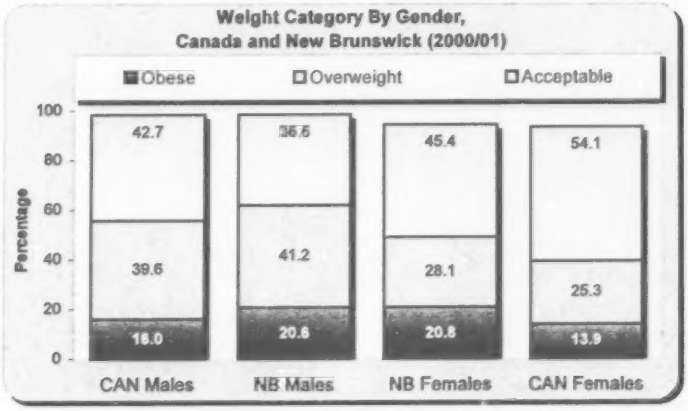


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Table 14.3.3 Obese - Body Mass Index 30.0 or higher:
(Ages 20 to 64) By Gender, Canada and New Brunswick (1994/95 - 2000/01)
Percentage of Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1994/1995	13.2	18.7	13.3	15.5	13.1	21.9
1996/1997	12.2	19.8	13.1	15.3	11.3	24.2
1998/1999	14.5	21.2	15.1	17.4	13.9	24.7
2000/2001	14.9	20.7	16.0	20.6	13.9	20.8

Table 14.3.4 Underweight - Body Mass Index Under 18.5:
(Ages 20 to 64) By Gender, Canada and New Brunswick (1994/95 - 2000/01)
Percentage of Population

	Both Genders		Males		Females	
Year	Canada	NB	Canada	NB	Canada	NB
1994/1995	2.4	1.2 E	0.8 E	F	4.0	2.1 E
1996/1997	2.0	F	0.7	F	3.4	F
1998/1999	1.8	F	0.8 E	F	2.9	F
2000/2001	2.6	1.6	1.1	F	4.2	2.2 E

(F: Too unreliable to be published)
(E: Use with caution)

Technical specifications:

Exclusions: *individuals less than 20 years of age and greater than 64 years of age, as well as survey frame exclusions.*

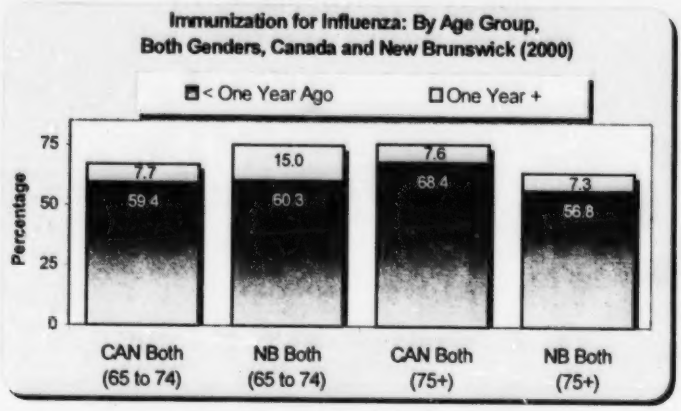
Numerators: *number of Canadians aged 20 to 64, reporting a BMI in each of the four categories below:*

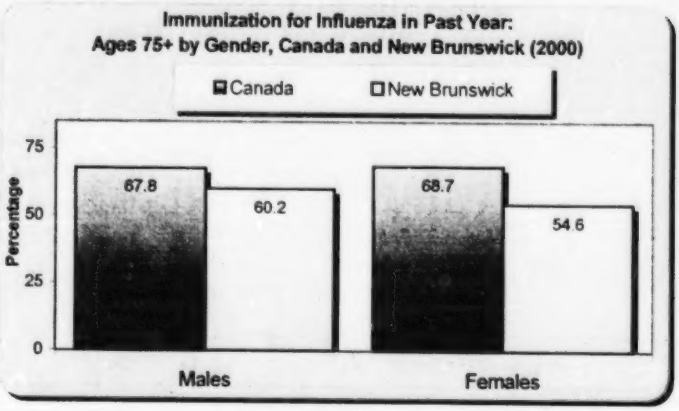
- *< 18.5 (Underweight)*
- *18.5-24.9 (acceptable weight)*
- *25-29.9 (overweight)*
- *30 or higher (obese)*

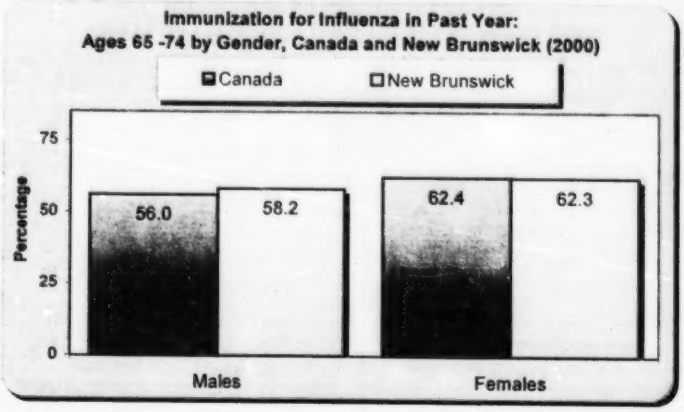
Denominator: *total Canadian population aged 20 to 64*

Calculation: *(numerator/denominator) x 100*

Source: *Canadian Community Health Survey – Cycle 1.1, 2000; National Population Health Survey, 1994,1996, 1998; ISQ*







DESCRIPTION:

Percentage of the population over 65 who report having had a flu shot either within the past year, or one or more years.

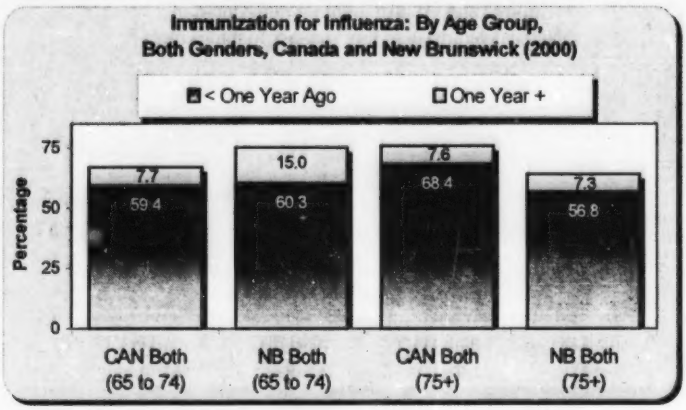
ANALYSIS:

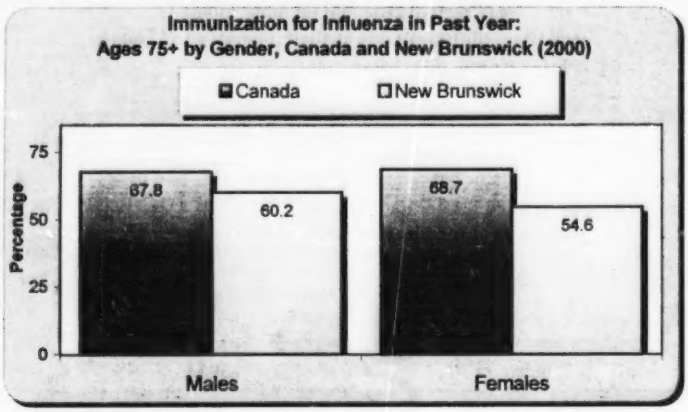
In 2000, the percentage of New Brunswickers aged 65 to 74 who reported receiving a flu shot in the past year was similar to the Canadian average. At both the national and provincial level, females in this age group were slightly more likely than similarly aged males to report having had a flu shot.

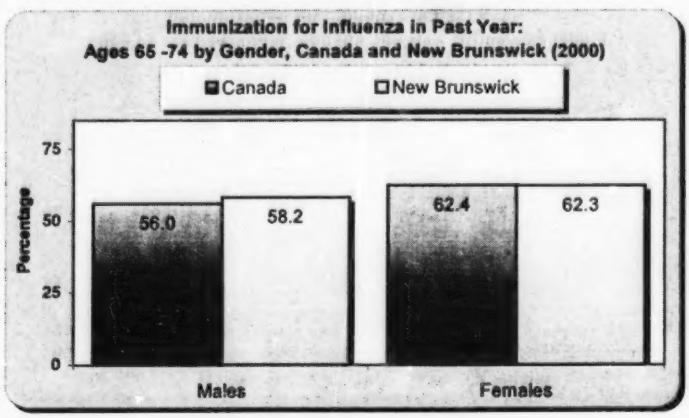
New Brunswickers in the 75+ age category were somewhat less likely than similarly aged Canadians to report having had a flu shot in the past year. Both New Brunswick males and females aged 75+ reported lower rates of flu immunization in the past year than did their Canadian counterparts. The percentage of New Brunswick females 75+ who reported getting a flu shot in the past year was below the percentage for NB males 75+, and considerably lower than the national average for females 75+.

Vaccination is recognized as the single most effective way of preventing or attenuating influenza for death from influenza infection and related complications. An annual influenza vaccine is recommended for those over 65 years of age, and other groups of people that may have compromised immune systems.

Immunization for Influenza







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Tables 14.4 Immunization for Influenza for 65+

Immunization for Influenza for Ages 65 to 74:
By Gender and Time Period, Canada and New Brunswick (2000)
Percent Immunized

Immunized	Both Genders		Males		Females	
For Influenza	Canada	NB	Canada	NB	Canada	NB
< 1 Year Ago	59.4	60.3	56.0	58.2	62.4	62.3
One Year or More Ago	7.7	15.0 E	8.4	F	7.1	16.4 E
Never Immunized	27.8	19.4 E	28.5	F	27.1	21.4 E

(F: Too unreliable to be published)
(E: Use with caution)

Immunization for Influenza for Ages 75+:
By Gender and Time Period, Canada and New Brunswick (2000)
Percent Immunized

Immunized	Both Genders		Males		Females	
For Influenza	Canada	NB	Canada	NB	Canada	NB
< 1 Year Ago	68.4	56.8	67.8	60.2	68.7	54.6
One Year or More Ago	7.6	7.3 E	5.2	F	9.1	F
Never Immunized	17.3	31.7	16.4	28.4 E	17.9	33.7

(F: Too unreliable to be published)
(E: Use with caution)

Technical Specifications:

This indicator is usually reported as the proportion of individuals reporting immunization within certain time frames. The questions asked are: Have you ever had a flu shot? When did you have your last flu shot?

Exclusions: *survey frame exclusions*

Numerator: *Estimated population 65+ reporting immunization: a) <1 year ago; b) 1 or more years ago; c) never*

Denominator: *total population in specified 65+ age groups*

Calculation: *(numerator/denominator) x 100*

Source: *Canadian Community Health Survey (sub sample)– Cycle 1.1, 2000; ISQ*